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THE GUIDE TO NATURE

42384

SPECIAL
Connecticut Shore
Number

Vol. IV. MAY No. 1

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, Under Act of March 3, 1879

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Multitudes of men do not live with Nature, but behold it as exiles. People go out to look at sunrises and sunsets who do not recognize their own, quietly and happily, but know that it is foreign to them. As they do by books, so they *quote* the sunset and the star, and do not make them theirs. Worse yet, they live as foreigners in the world of truth, and quote thoughts, and thus disown them.—Emerson in "*Letters and Social Aims.*"

Arcadia

For the sake of the "Farm,"—of each valley
and glade,
Of its ever green beauty in sunlight and
shade;
Of the tramps o'er the hills and the strolls by
the lake,
Of the wild woodland rides on the swift roll-
ing break.

For the sake of the "Kitchen's" hospitable
cheer,
Of the merry good times there through many
a year,
Of spirits congenial and host so benign,—
For the best of all sakes,—for 'Auld Lang
Syne.'"
—By Alice Stead Binney in dedica-
tion of her romance of Hilda, "The Le-
gend of Laddin's Rock," to Wm. L. Marks.





"THIS TALLYHO IS NEVER EXCLUSIVE, BUT INVITATIONS ARE OFTEN EXTENDED TO APPRECIATIVE FRIENDS." Page 11.

For the evergreens in winter see the lower illustration on page 18.

"THE LARGEST USE AND THE WHOLE BEAUTY OF A FARM."

The capable and generous, let them spend their talent on the land. Plant it, adorn it, study it, it will develop in the cultivator the talent it requires.

The avarice of real estate native to us all covers instincts of great generosity, namely, all that is called the love of Nature, comprising the largest use and the whole beauty of a farm or landed estate.—Emerson in *"Natural History and Intellect."*



THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

MAY 1911

Number 1



A Private Estate for Public Benefit

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut

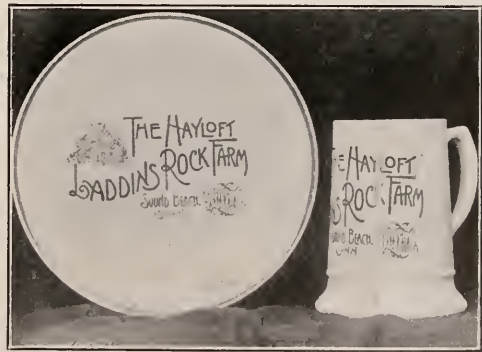


KEY TO THE
"HAYLOFT"

Is there anything more commendable in all this world than the desire to obtain, own, care for, beautify and improve some charming bit of nature's domain? Yes, there is something far better than this, and that is the desire to benefit humanity as extensively as possible by bringing young and old in close touch with nature.

It is the firm belief, put persistently into practice, of The Agassiz Association and of THE GUIDE TO NATURE, that there is no better nor more desirable

wealth in this world than to be able to enjoy and to be in harmony with every possible phase of beautiful nature.



EMBLEMS, LIKE THE KEY, OF CORDIAL HOSPITALITY.



THE ANCIENT AND CHEERING FIREPLACE WITHIN THE "HAYLOFT."

But we have one principle even stronger than this, which is that this intimacy should be entirely unselfish and always missionary in spirit.

Most lovers of nature will agree with this principle of disseminating information when it pertains to the smaller, inexpensive things. Many a micros-



THE PICTURESQUE ROAD BY THE "HAYLOFT."
Exterior view of the fireplace chimney.



THE SIGNAL TOWER AND POETICAL REMEMBRANCES OF THE FORT'S GUNS.

copist would gladly share with some one who appreciatingly exclaims, "Oh, my! isn't that beautiful; how much you must enjoy that." Many a collec-

ing botanist shows to his friends some rare specimen gleaned from nature's deepest glade or thicket. But, while he is expatiating on the beauty of his



THE IVY-COVERED DUTCH KITCHEN.



THE INTERIOR OF THE DUTCH KITCHEN.

specimens and his own adroitness in securing such rarities, he might take care not to let them know where he found the specimens, because forsooth



A DISTANT VIEW OF THE DUTCH KITCHEN IN WINTER.

they might go and annihilate the plant. That would be the right spirit in which to deal with those who would thoughtlessly exterminate the objects, but it would not be right so to treat a fellow botanist who is as appreciative of the find and rarity of the flower as is the original discoverer. The joy in a cabinet of minerals should largely be in showing them to your admiring friends. Many a natural history specimen is collected largely for the purpose of having some friend share its enjoyment.

But strange to say this missionary spirit is too apt to end with the inexpensive specimens from nature. When

act after taking possession, had posted the entire property with "No TRESPASSING" signs. The second was to arrest a man who, with his family, went walking through the woods on a holiday afternoon, although it was shown that not one of the nature lovers thus enjoying a sort of "rambler's lease" had inflicted any injury whatever upon trees, shrubs or plants. It was simply a case of pure, unadulterated selfishness. The man had paid his good money, as he expressed it, for those forests, ravines and fields; they were his and he wanted them to himself. But arresting one man and another



READY FOR A DRIVE.

it comes to ownership of real estate, though it be the gem of the region, the common custom is to put up a sign, "KEEP OFF THE GRASS," or, "NO TRESPASSING ON THESE PREMISES UNDER PENALTY OF THE LAW."

On a recent visit to a small town in the Middle West the writer had pointed out by a nature loving friend and member of The Agassiz Association, a charming bit of picturesque forest scenery that had been recently purchased by a wealthy, yet evidently intensely selfish, man who, for his first

soon after, and posting notices, were not enough to protect the owner's exclusive right to that charming piece of nature. He tried another method and put around the entire property a barbed wire fence some eight or ten feet high, and not contented with the height of a plain fence he had a projecting top well covered with barbed wire and thus, with plenty of notices which were superfluous because it would be an almost impossible task to climb the fence, except with a liberal supply of ladders, he proclaimed to all

the world, "I am a lover of my fields and forests and ravines, but I am a selfish one and I intend to shut out all the world from this beautiful place and keep it for my sole enjoyment." It is true that such extreme exclusiveness is rare, but sad to say and as every naturalist knows, there are elsewhere some examples of the same kind of selfishness even if not so fully developed.

In all my travels and all my observations of beautiful places in nature, I have never known one more beautiful, nor so wholly missionary in spirit, nor more generously offered to the public than is Laddin's Rock Farm, owned by Mr. William L. Marks, and located only a short distance from our Arcadia, Sound Beach, Connecticut.

This farm is partly within Stamford, Connecticut, and partly in Sound Beach, Connecticut. The nucleus of it was originally a part of the Selleck

estate—a tract containing some seventy-eight acres, purchased by Mr. Marks in 1893. In the same year a tract of about twenty acres was bought from Mr. William McAfee. From that time



"THERE—NOW I AM READY FOR THE DAY."



AN EARLY MORNING PLUMAGE PREPARATION.

others have been added until the total purchase now consists of about twenty tracts. These came from small farms, building lots and even little corners commonly referred to as "jib pieces" until at the present time the farm contains over two hundred acres.

Among the many improvements have been about three miles of excellently constructed road, which winds around and through the ravines and on the terraces up to the extreme top of the hills. There are places where one may take a long drive and arrive at a spot from which he may look down on his starting point, or on the terrace over which he passed half a mile in the distance.

It is the ideal exploitation at the cost of thousands of dollars of the principle of The Agassiz Association, and this Association is proud to claim Mr. Marks as a member and cooperator in its extensive work throughout



THE POETRY OF PEACEFUL WATERS (SWAN LAKE) AND FIELDS.

the world. And right here only a few rods from our doors Mr. Marks has exemplified in concrete form the true spirit of an AA member, which is, first of all, to get one's own self in touch with nature, to be thoroughly conversant with her and appreciative of her

beauties, and then, with equal enthusiasm, to enjoy the sharing of all these interests with the public. Mr. Marks does not reside on this private estate, which, to all intents and purposes, though he does not proclaim it as such, is a public park. Mr. Marks is a man



SWAN FALLS—NOT HIGH BUT VERY BEAUTIFUL.



THE FORTER'S LODGE AT THE ENTRANCE ON THE POST ROAD.

of business of the firm of A. A. Marks & Company, 701 Broadway, New York City, and when living in this vicinity makes his headquarters at The Club House, Stamford, Connecticut. He visits the farm once or twice a week to superintend the steady progress of improvements none of which are for money making but for the gratification of his personal friends and of the general public all of whom are cordially invited to make themselves at home on the farm. The restrictions are few, and I doubt whether anything

connected with the farm gives its owner so much and such direct pleasure as the knowledge that some one else is enjoying the beauty and the attractions of the place. Very little of the farm is a farm in the ordinary sense; few crops are raised on some of the cultivated fields—enough to supply the workers and some others. Sufficient hay is raised to supply the horses, of which Mr. Marks is a devoted lover. His fine teams are an impressive antithesis to the universal automobile craze. Mr. Marks is too intense a na-



A VISTA NEAR THE POST ROAD ENTRANCE.

ture lover to go whizzing through the country in an aroma of gasoline. He prefers to hold the reins over beautiful and spirited horses. And here again appears his generosity in sharing his pleasures. His tallyho is never exclusive, but invitations are often extended to appreciative friends. We frequently see him driving by Arcadia's office but seldom with the same guests twice in succession. He seems most happy when he is giving pleasure to others.

death, has to others been the greatest life-giving force. Here on Sundays and holidays wander the laborers and their families for rest and refreshment; and along the charming lanes and gracefully curving roads lovers walk and look not alone upon the actual vista of the lake but upon happy visions of the years to come; here the little people shout and laugh to their hearts' content as they run up and down the hills, or play among the trees, or watch the



MR. MARKS "PREFERS TO HOLD THE REINS OVER BEAUTIFUL AND SPIRITED HORSES."

Laddin's Rock Farm is not only a charming bit of natural scenery, but it is made famous by tradition, chiefly of the tragedy of Laddin as is told in this number by Mr. Sherwood of New York City. One can hardly realize while sitting in the impressive shade of the hemlocks east of this abrupt precipice that here occurred such a calamity as the destruction of an entire family. But these are the mysteries and paradoxes of human life. What to some has brought self-sacrifice or

classical swans and their graceful movements on the quiet waters of the lake; here too come gay equipages and magnificent limousines. But best of all from the writer's point of view, here come the schools and their teachers, to watch the earliest developments of nature; here in the early morning come the bird lovers with their field glasses, and here the poet, the writer and the artist wander for inspiration; here the camerist appears with tripod and magic box when he would obtain



"HERE COME THE APPARATUS AND THE ACTORS FOR THE MOVING PICTURES OF
. CUPID'S ESCAPADES."

specimens to make the other members of his club jealous. Here come the apparatus and the actors for moving pictures of stirring Indian scenes, for pastoral groups, for cupid's escapades and lover's trials that shall thrill the audience and lay bare the motives and the feelings of the human heart, and at the same time please the eye by the marvelous natural beauty of the scenery.

Probably no other location has been so frequently utilized for such purposes as Laddin's Rock Farm. The actors

well covered with salt to imitate snow.

Thus Laddin's Rock Farm is a Mecca for all classes. Here it is literally true that "One touch of nature makes the whole world kin," from the youngest to the oldest; the uncultured to the most learned; the matter-of-fact to the most rhapsodical.

The hayloft is an admirable conception and adds to the harmony of the environment, and forms a poetical contrast to the horrors and the tragedies of the past. It was only a few rods



THE DREAMY AND HAZY RAVINE.

often visit the place, and it is maintained by those that a company in New York City prepares a large percentage of their films from the farm's varied scenery. An especially popular moving picture is one of Alpine travel. To simulate the Alps in winter the picture was taken when the ground was bare, and after the precipitous rocks had been

from the hayloft that Laddin met his fate.

Here was a fort with guns from which belched sorrow, destruction and death. But the fort is now only a remembrance, while the guns are commemorated by a huge piece of ornamental pipe set within the stone of the walls. Here also the martial spirit



THE ARCH IN SUMMER.

(For nearly the same view in winter, see page 19.)

of the past is merged into the revelry and the dance of the present. The tower and the light within the tower really exist, but only for the spirit of poetry; and the Hayloft has only enough of hay in the small loft at one end to carry out pastoral suggestion.

A huge fireplace at one end of the dance hall radiates cheer and good fellowship with its historic suggestions of hospitable fireplaces of the long ago.

Over all and through all of Laddin's Rock Farm is the greatest and most effective combination of history in



A STUDY IN REFLECTION.

tragedy and comedy, and of poetry in romance and tradition of life and of death; of joy and of sorrow, that could hardly be duplicated by any other of similar extent in existence. Here are wildest scenery and the most modern improvements; here are trees centuries old and blended with them in harmonious setting the choicest and best of modern nurseries. Here are ravines and bubbling brooks, lakes, verdurous hills and arboreal mountain tops from which miles of Connecticut shore, Long Island Sound and Long Island may be viewed.

Here is in operation the latest and

here set to the entire world in a modest way? What better philanthropy than to exploit to the best possible some of nature's domain and open it to the greatest extent possible to all humanity. Mr. Marks is successfully putting into practice the ideal principles of The Agassiz Association because he is in reality equipping to the best possible a private estate and opening it in most cordial invitation to the public. It is not done half-heartedly nor grudgingly, but in a spirit that says, "Come one, come all and revel in the beauty and the allurements of nature." No policemen in uniform are required to patrol



THE CASTLE WALL, OF COURTYARD, WITH IVY DECORATIONS.

best modern farming machinery, and at the same time may be heard the swish and the rhythmic ring of the mowers' rank and file as the dew-laden grass falls before their early morning advance. The luxuriant crop is too heavy for any mowing machine which would soon be entangled and clogged by this wealth of what Ruskin calls, "That glorious enamel, the companies of those soft and countless and peaceful spears."

But more than all the spirit of history and romance, is the spirit of the owner that would extend the beauties and interests of nature to the greatest possible. What an ideal example is

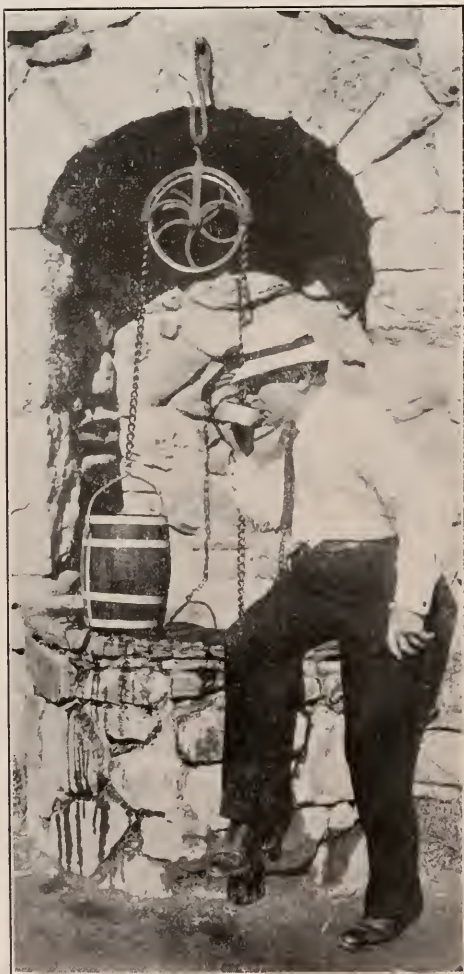
the paths and roads, because every visitor is a special officer who would freely and effectually reprimand any who should disturb plant or tree. Such disturbers never come. The spirit of the place neutralizes all such hostility, and every prospective disturber departs an enthusiastic and grateful friend.

Books, magazines, newspapers, in prose and poetry, cameras and artists have told of the natural attractions of Laddin's Rock Farm; they have been put into allegory and romance, they have been pictured and scienced (if I may coin such a word) far and wide, but I "sing the man" who, in the ever widening differences between the



"THE LUXURIANT CROP IS TOO HEAVY FOR ANY MOWING MACHINE."

MR. MARKS ENJOYS ALL PHASES OF THE HAYFIELD.



"classes" and the "masses" is thus setting a notable example that should attract world-wide attention. What is the use of more magazines, books and lectures to tell of nature as beneficial to mankind and as an intellectual stimulus, only the more frequently to see a few gathering so many of nature's attractions into great estates where they post signs, "Keep off these premises?" The necessity right here in this year 1911 is not so much to urge people to enjoy nature, because most people will gladly do that in some form if they have the opportunity, as it is to give them greater opportunities of access to nature. Natural beauties abound in Laddin's Rock Farm, but more interesting and beautiful than all these is the manifest cordiality of the owner and his desire to share nature's wealth and resources with all humanity. When all such possessions shall be as effectively devoted to the good of all humanity as is Laddin's Rock Farm, the millenium will have come!

Note:—The following photographs are by the Van Art Company: page 9 (upper); page 10 (upper); page 13; page 14 (upper); page 15. The others are by Edward F. Bigelow.



LOOKING NORTHWARD NEAR THE NORTHERN ENTRANCE.

Laddin's Rock Farm in Winter.

"In winter, when the leaves have dropped from the trees, and the snow settles softly down over the cold earth, hiding its bareness with a fleecy white covering weighing down the branches of the great hemlocks until they touch the ground, picture after picture presents itself to the sight, tempting one to penetrate farther and farther into its recesses. And when icy fingers of frost touch naked limbs and twigs after a rain, and the sun comes out and

strikes the myriads of jewels hanging from the trees, and the crystal armor in which every growing thing is encased, it is fairyland itself."—*The Kerr Weekly.*

The Precipice and The Ravine.

"The Indians had many legends concerning the rock, and . . . the ravine was sacred ground, where only those engaged in certain mysterious ceremonies were allowed to tread.



THE SOUTHWESTERN ENTRANCE WITH SNOW DECORATIONS.



LOOKING DOWN INTO THE RAVINE.

"The rocky hill rose on three sides, like any of its neighbors, in a fairly easy slope from its foot, but on the other side it ended in a precipitous rocky bluff, a hundred feet high, with its perpendicular surface broken here and there by great jutting crags; and at its foot lay a dark ravine, awful in its silent beauty, with giant hemlocks whose tops were just above your head as you gazed over the edge. A silvery stream ran through the valley, and on the other side you could dimly see a woody hill rising. A thick carpeting of fern and moss covered the ground. Seldom did buzz of bee or song of bird disturb the stillness, and in those

shaded depths the air was always fragrant and cool.

* * * * *

"And Laddin's Rock still stands and guards the quiet valley, and hundreds of interested visitors have stood and gazed down into the green and shaded depths, and wonder how long the big boulders have lain at the base of the precipice. In the cracks in the face of the giant Rock, where once the jutting ledges hung, great trees have grown, and seem to thrive with but a handful of earth to hold their roots."—"Laddin's Rock" by Alice Stead Binney.



THE SCENE OF OUR FRONTISPIECE IN WINTER.



WHERE THE WATER RUNS COLD AND CLEAR.



"AND ALL SO STILL," WITH WINTER'S BEAUTY.

For summer view of the arch, see the top of page 14.



WINTER'S PLANT AND CRYSTAL FLORA IN THE LADDIN RAVINE.

The Legend of Laddin's Rock.

BY H. F. SHERWOOD, NEW YORK CITY.

Perhaps the oldest legend connected with the history of Stamford, Conn., is the one which relates to a rock about two miles west of the centre of the town. A cliff over sixty feet high, and buried in the depths of a wood, this rock has always been the objective point for rambles from the town. About it the early wild flowers bloom and the late nuts fall. For many years the companies of gypsies who travelled over the old Boston-New York post road camped near the rock to trade horses and tell fortunes.

A short distance west of the rock, on which side its crest is reached by a gentle incline, according to the legend, a number of settlers built their homes a few years after the Dutch settled on the Island of Manhattan. Among them was one named Cornelius Laddin. Laddin's family consisted of his wife and a girl of sixteen. His log house was apart from those of his neighbors and nearer the rock. The little settlement was permitted to clear its land and plant in peace for a few years, but one day the Indians, their passions aroused by the cupidity of the Dutch traders of New Amsterdam, attacked the little group of huts in the wilderness. Laddin was in the field working, and, seeing a smoke, knew that the cabins of his neighbors were on fire. He realized what it meant, and started for his home with the hope of reaching it before the Indians did in order to protect his wife, his child and his horse. He had succeeded in barring the doors before the red men appeared in the cleared space before it. He took his place at the window, gun in hand. An Indian started toward the house bearing a flaming torch. A puff of smoke from the window, and the woodman's marksmanship had proved its efficiency. Maddened by the resistance, a number of the savages, carrying a log as a battering ram, started toward the door. The wife and daughter in terror clung to Laddin, who was busily reloading his musket. Another shot echoed in the clearing, and for a minute the advance of the

Indians was checked by the body of a fallen comrade. Again they started for the door, again the musket rang out and another redskin's blood stained the grass of the clearing.

This resistance could not be continued for long, as the supply of pow-



A HORSE AND RIDER IN THE PLACE WHERE LADDIN AND HORSE FELL.

der in the cabin was small and rapidly diminishing. A crash on the heavy door started the heavy hinges and the bar which held it fast. The mother and daughter shuddered as they clung tighter to the husband and father. Another crash followed and then, as women sometimes do when they think of the safety of loved ones, they forgot themselves and their fear.

"Husband, fly!" the woman cried. "They will surely respect our sex. I will open the door in the rear. You can ride away on the horse which I

tied in the wood a little while ago. Perhaps you can bring assistance."

Laddin hesitated, but the wife, suiting the action to the word, unbarred the door. At that instant the front door fell and in rushed the Indians. They buried their tomahawks in the brains of the two women and tore off their scalps.

In the hasty glance which he had thrown backward as he stood in the door, Laddin had seen the tomahawks descend. Frenzied by the spectacle he dashed out to his horse, pulling out his hunting knife as he ran. The momentary delay while the scalps were

being taken enabled him to cut the thong that held the animal. As the Indians burst from the house in pursuit Laddin jumped upon the horse and turned its head toward the top of the cliff. The cries of the Indians behind spurred the animal forward, and in a moment the rock's crest was reached. Horse and rider disappeared from the sight of the pursuing Indians. The echo of the crashing undergrowth below came over the cliff's edge, and then all was silent even the baffled savages making no sound as they looked over upon the horse and rider lying dead upon the ground below.

THE CAMERA

My Experience with a Camera.

BY THE REVEREND J. I. WILLIAMS, ALBUQUERQUE, NEW MEXICO.

My ministry, for the most part, has been among the mountaineers of the Blue Ridge Mountains, where much of my time was spent in riding on horseback along the creeks and rivers, through dense forests of poplars, walnuts and oaks, with a deep under-

growth of rhododendrons and laurels. Between my visits to the homes and settlements, there must necessarily be long, lonesome journeys with no companions but nature and Don Carlos, my trusted horse. In these circumstances, and with grand or beautiful scenery ever about me, nature began to speak a varied language. Trees, babbling brooks, rocks, waterfalls and



A MOUNTAIN TRAVELER.



LOWER MINE FORK FALLS, BURNSVILLE,
NORTH CAROLINA.



GRASSY CREEK FALLS, MITCHELL COUNTY,
NORTH CAROLINA.



JAKE PETRY'S MILL, RALEIGH, NORTH CAROLINA.



THE FRIDAL TOUR.

flowers seemed to have tongues, sermons and books. Thus was I given a desire to record some of these wonderful expressions of God's love for the beautiful and the good.

My first camera was an inexpensive,

4 x 5, instrument, but it did me excellent service because I mastered its mechanism before I even attempted to make an exposure. My conviction was that if the pictures were worth having they were worth the trouble of making



A PICTURESQUE HOME BY THE RIVER.
(Coal River, West Virginia.)



ADOBE HOUSES IN MEXICAN QUARTERS IN ALBUQUERQUE.

them as good as possible. To waste materials in half doing a thing is a moral wrong. With this little camera in my saddlebag I started out bent on success. I gauged my exposures by a simple exposure meter and used only a small top. My first pictures were a complete surprise. How could a lens produce such clear-cut, beautiful results in my hands when I knew not the first principles of art? Of course I made mistakes; but a careful study of a small book of photography soon rectified these, and my pictures at once

found ready sale at a price that more than paid the expense of materials. Some pictures were taken of subjects far away from the haunts of men where photographers seldom go; these I soon found were of great interest to my friends, and my camera became a definite factor in advertising our missionary work. Through our workers the pictures were distributed freely, and many people became instructed and interested in Home Mission Work.

The processes of photography are mysterious, but intensely fascinating



SILVA'S SHRINE.

A private chapel—the smallest in the world.

to any one who will give them only a little study, and go at the work in the proper way. It has been my pastime study for fifteen years and interest has never been wanting. It seems to



JUAN CHAVEZ, A VENDER.

me, too, that the mere contemplation of photographic records of natural beauty, and the attempt to fix them in the prettiest way, make one more fond of the original beauty, and enable one to understand and love more fully the God who formed and every day beautifies His Handiwork. As a matter of culture and refinement a good camera well operated is a noble instrument.



To Photograph Dew.

BY WILSON A. BENTLEY, JERICHO, VERMONT.

The forms of water, in snow, frost, ice, dew, clouds and rain, are not only a beautiful and varied part of nature, but they perform a beneficent and important part in nature's plan, for without them vegetable and animal life would be impossible upon the lands of the earth.

The processes concerned in their formation and evaporation, including the production of clouds, rain and snow, comprise nature's wonderful system of natural irrigation, whereby water is taken from ocean, lake and river, and deposited in part upon the land. This should endow with general interest these processes and the forms of water which they produce.

Snow, frost, clouds and ice are the most beautiful and varied among these water forms, but if closely studied the dew, and even the rain, is full of interest and beauty either in its forms or its manner of collecting upon vegetation and beautifying it. The dew forms so abundantly during the nighttime and in so quiet and invisible a manner, that it appears to be a much more magical and mysterious phenomenon than it really is. We can hardly credit the fact that the apparent magic that overnight tips the grass blades with sparkling drops of water (or with frost crystals) is largely accomplished merely as a result of a slowing down in the rate of vibration of the invisible particles of water (water molecules, they are called) that float in the air, as well as of those of the air itself, and those that compose vegetable objects.

During the daytime the sun's rays agitate these invisible water particles and thus prevent their collecting upon earthy objects.

The next time you go out in a dewy or frosty night or morn, recall this simple yet wonderful explanation of the formation of dew and frost. The seasons, spring, summer and autumn, each furnishes its especial opportunities for the study of dew. In the spring we may note the charming way in which



LARGE DROPS.

TINY DROPS.

MEDIUM SIZED DROPS.

it collects upon young shoots and leaves. The midsummer mornings will reveal dew formations in many aspects upon more mature plants and grasses, and upon flowers and other objects. The autumn will exhibit the interest-

ing and beautiful way in which the drops collect upon plant seeds, late flowers and spider's webs.

The dew is at its best during the early sunrise hours, and the observer should arise early, and travel far afield



SOME FRINGES OF DEWDROP JEWELS.

among all kinds of plants and grasses, to discover its full beauty and the varied way in which it collects upon different objects. It should be examined minutely and carefully in all its aspects, hence one should stoop down often during these morning rambles among the fragrant vegetation then gleaming with its burden of dew, and if possible examine it with a pocket lens.

a lens of short focus, it offers a fascinating field of endeavor.

It shows best, when seen or photographed, against a dense black background, and such should be supplied, if possible, for photographing.

Such photography presents no great difficulty, and the details of the work, the search for objects with just the right burden and arrangement of drops, and the task of arranging the speci-



GORGEOUS, GLITTERING DEWDROP DECORATIONS.

Such an excursion, at early morn is full of delight, and the dew lover will find masterpieces on every hand and equally charming whether as objects to be looked at merely, or to be photographed.

The dew collects most beautifully perhaps upon the leaves of the strawberry and the clover, and on the garden spider's geometric webs, but it is also charming on the grasses, fluffy dandelions, and especially on objects covered with vegetable hairs, as the mulleins and certain grasses.

It affords charming objects for the camera, and to one who has or can construct an extension camera, and has

mens in the best way before the camera, afford an experience wholly delightful and instructive.

A Visit to Ausable Chasm.

BY MRS. E. E. TRUMBULL, PLATTSBURG, NEW YORK.

It was while the camera girl was with us, and the places of interest about home had been exhausted, that we conceived the idea of visiting Ausable Chasm, and of going alone, or with only a few congenial friends. Steam took us from Plattsburg to Port Kent, where electricity conveyed us for three miles, through a sweep of sandy huckleberry plains stretching in dull green

towards the quiet waters of Lake Champlain. Interesting in itself as well as in its location, Ausable Chasm is but one of a system of fissures that have torn the earth's surface in the northern part of the state.

Winding in and out between beautiful green shores and fed by many mountain streams, the Great Ausable River rapidly becomes one of the wildest of rivers, until it breaks a passage through the solid sandstone and plunges into the Chasm in a series of beautiful cascades and falls, from sixty to eighty feet in height, where it goes foaming, whirling and tearing over its rocky bed until released from the gigantic cliffs which overhang it. Near the entrance to the Chasm are the Rainbow Falls, the most beautiful of all. A little lower down we came to the Horseshoe Falls, their circular shape suggesting the name. The camera girl, when we set forth to explore, led the way but she was soon in the rear, as she has a habit of stopping to study every striking bit of



"ELEPHANT'S HEAD"—A STRANGE FREAK IN THIS WONDER OF NATURE, WHICH RECEIVES MORE THAN PASSING INTEREST FROM ALL CAMERISTS.



THE BEAUTIFUL "RAINBOW FALLS" OF THE AUSABLE RIVER, NEAR THE ENTRANCE TO AUSABLE CHASM.



AUSABLE CHASM—ONE OF THE WONDERS
OF NATURE.

From ten to fifty feet wide; from sixty to two hundred feet deep.

scenery, with a possible photograph in mind. Every step and every turn ushers in a new and more marvelous picture. And it is all so accessible. By means of artificial stairways, bridges and boats, the entire two miles may be traversed.

The walls that are now from ten to sixty feet apart were no doubt at one time united, as similar layers of rock are to be seen on each side, and bear many marks of the tooth of time.

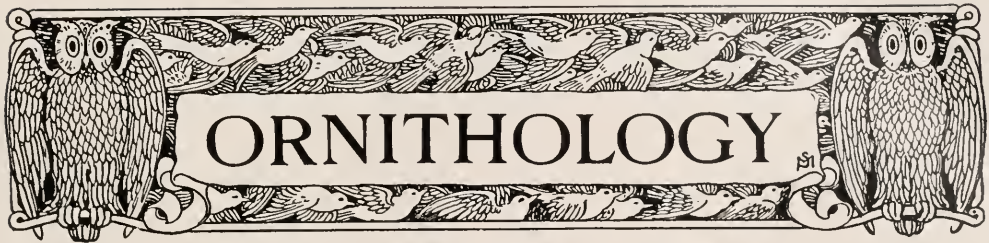
We pause for a moment and listen to the orchestra of nature—the music of the winds, the roar of the falls, and the rushing of the river. High above us the rugged rocks are blue with graceful hairbells, growing in crevasses where it seems that nothing so frail could find a foothold, and where they appear to have borrowed their color from the strip of sky that stretches like a narrow ribbon over all.

Special points of interest occur along the entire length of the Chasm. The first after leaving the falls is "Elephant's Head," one hundred feet in length. At the right is the "Devil's Oven," a dark hole thirty feet in depth.

"Hell Gate" is close by, and next we come to the "Devil's Punch Bowl" where the water quietly whirls. We pass "Jacob's Ladder" on the east. Near by is "Mystic Gorge," a crevasse whose walls are covered from top to bottom with beautiful ferns. And now we have reached "Table Rock" where our tramp ends, and the most exciting part of the trip, the boat ride, begins. With many a gasp we are whirled through the "Grand Flume" where the Chasm narrows to scarcely ten feet in width. The water is here very swift and is said to be sixty feet deep. In spite of our fears we are safely piloted to the pool where our journey ends and our carriage is waiting for us. As this drive would end our sight-seeing for the day, we revelled in the sunshine, the acceptable breezes, the beauty of the blue sky and the wayside flowers which our obliging Jehu often stopped to gather at our exclamations of delight.

"Study Nature; Not Books."

If you propose to be a naturalist, get as soon as you can at the objects themselves; if you would be an artist, go to your models; if a writer, take your authors at first hand and after you have wrestled with the texts and reached the full length of your own fathom line, then take the fathom line of the critic and reviewer. Do not trust to mental peptones. Carry the independent, inquisitive, sceptical and even the rebellious spirit of the graduate school well down into undergraduate life and even into school life. If you are a student, force yourself to think independently; if a teacher compel your youths to express their own minds. In listening to a lecture, weigh the evidence as presented, cultivate a polite scepticism, not affected but genuine, keep a running fire of interrogation points in your mind and you will finally develop a mind of your own. Do not climb that mountain of learning in the hope that when you reach the summit you will be able to think for yourself; think for yourself while you are climbing.—*Dr. H. F. Osborn in Science.*



The Last of the Passenger Pigeons?

Are we "in at the death" of the finest race of pigeons the world has produced? It begins seriously to look that way. In response to the long list of liberal rewards last year for reports of undisturbed nests of the passenger pigeons, several alleged "reports" were made, but all have been proved in error. So far as is known from *reliable authorities*, the wild pigeons are extinct except a female, nineteen years old in the possession of the Cincinnati Zoological Society.

The investigation will be continued till October 31, 1911, as per following bulletin. Note carefully the conditions. Don't make erroneous reports, nor those not within the conditions.

* * * * *

Passenger Pigeon Investigation.

LIST OF REWARDS WITH CONDITIONS GOVERNING THEM.

One Thousand Dollars (\$1000) Reward

For first information, **exclusive and confidential**, of the location of a nesting pair or colony of passenger pigeons, anywhere in North America; when properly confirmed and if found by confirming party with parent birds and eggs or young **UNDISTURBED**:

Colonel Anthony R. Kuser will pay a reward of\$300
John E. Thayer will pay a reward of\$700

For first nesting discovered thereafter in the following States will be paid by:

John Burroughs, New York.....\$100
A. B. F. Kinney, Massachusetts... 100
Anonymous, Massachusetts, for
2nd find..... 100
Allan B. Miller, for 1st nesting
found in Worcester Co., Mass. 20
Edward Avis, Connecticut..... 100
Harry S. Hathaway, Rhode Island. 100

Worthington Society, New Jersey. 100
John Dryden Kuser, for 2nd nest-
ing found in New Jersey.... 10
Henry W. Shoemaker, Penna. \$200
(adds \$25, if nest is protected). 225
W. B. Merston, Michigan..... 100
R. W. Mathews, Minnesota..... 100
Ruthven Deane, Illinois..... 50
John E. Thayer, Me., N. H., Vt.,
Ont., Wis., \$100 each..... 500
John Lewis Childs, for first three
nestings not entitled to any of
the above rewards, \$200 each. 600

The purpose of these offers is to secure an intelligent search of the American continent for breeding pigeons in the hope that, if found, the species may be saved from extermination.

All above rewards are offered solely and only for information of location of undisturbed nestings. We do not desire possession of any birds, alive or dead, but are working solely to save the free, wild pigeon.

To insure intelligence and good faith informants of nestings are advised to enclose or agree to forfeit at least \$5 in case they have failed to identify the birds correctly. This is only fair, since the amount may cover but a small part of the costs occasioned by a false report. The money will be immediately returned, if the birds are found to be passenger pigeons (*Ectopistes migratorius*). In the case of nesting pigeons, there can be no excuse for sending in false reports. **Disregard all nests on the ground. The wild pigeon always nests in trees, generally 10 feet or more from the ground.**

Priority of claim will be decided by time of receipt at post or telegraph office. Rewards will be equally divided, if two or more letters or messages bear record of same date and hour. All nestings within one mile of one another will be counted as one colony.

Please report all pigeons seen, giving *exactly* date, hour, number in flock, direction of flight. Unless absolutely certain that you know the Band-tailed, Viosca and Red-billed pigeons, do *not* report that you have seen the passenger pigeon in the Rocky Mts. or Pacific Coast region, from British Columbia to Mexico.

As soon as a pigeon nesting is surely identified write the undersigned, who will arrange for confirming party and for payment of reward. All rewards not claimed by Oct. 31, 1911, will be withdrawn.

Signed, C. F. HODGE,
Clark University, Worcester, Mass.

For descriptive leaflet with colored pictures of the pigeons and mourning dove, enclose 6 cents, stamps, to Chas. K. Reed, Worcester, Mass.

Note—You are millions to one, already busy man. Please do not write Dr. Hodge for INFORMATION. \$100 pays the postage on only 5,000 letters.

Professor Clifton F. Hodge writes to THE GUIDE TO NATURE, date of April 23, as follows:

"Professor Whitman's pigeons, passengers, are all dead. The lone specimen in the Cincinnati Zoo is the only one I know of alive in the world. Have had good reports, however, of flocks seen this spring—from South Carolina, Virginia, Indiana, Pennsylvania, and last August as a man eighty-three years old writes me, a family had passenger pigeon potpie from a flock of from 'eight hundred to one thousand birds' which nested in Michigan.

"May get a report of nesting any day now."

It is sincerely to be hoped that these reports will not prove to be false as did many seemingly equally good last year.

* * * * *

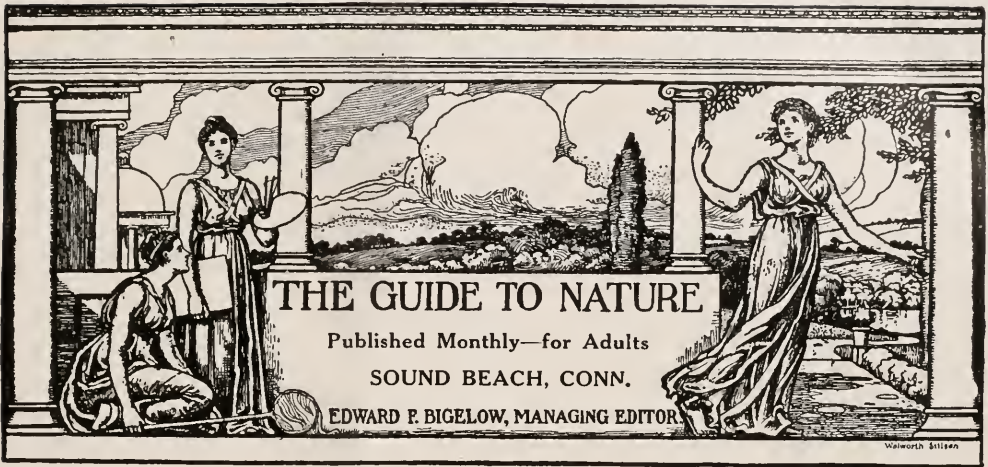
One of our AA members, Mr. John E. Mellish, Cottage Grove, Wisconsin, writes under date of April 19, 1911, as follows:

"There was a heavy shower about 10 a. m. the thirteenth of April. I went out under an apple tree near the house and just then a large bird came and lit

about eight feet above my head. I made tracks for the house and got a three inch telescope out and we looked at the bird with a power of fifty diameters, from a distance of sixty feet and found it to be a passenger pigeon. There were some white tail feathers under the others and about two-thirds or three-quarters the length of the tail. These feathers only showed when he flew or spread the tail. There were six black spots on each wing about two times the diameter of his eye and oval shaped. The upper end of the spots were covered by some lint of the same feather so we could not see it all. The general color of the upper parts was a sort of ash. The breast was a rusty brown with a pinkish tinge. The lower ends of the wing feathers were edged with white. There was not a single speck of dark under the ear or on the side of the head in any place. We watched it for over an hour; it then went north. I wrote to an expert and he wrote that there was no doubt about its being the passenger pigeon."

The Value of Science.

One can hardly form too sanguine estimate of the possibilities of benefits to be derived by our generation and those who come after us from the systematic endowment of scientific research. At the present day probably no thoughtful man is disposed to question the value of science to the community, so long as merely general principles are mentioned. It is only when some specific problem is referred to that we often hear the impatient question, "What is the use of such work?" The man who asks such a question is usually forgetful of the fact that he has in his own mind admitted the truth of the general principle of utility and is merely unable in this particular instance to follow out for himself the complicated network of threads by which some one particular problem is linked with the infinity of natural phenomena, the proper understanding of which is so essential for our mastery over nature, and for our very life.—"*Scientific American*."



The Early Days of an Important Local Museum.

Naturalists and, indeed, all of a cast of mind to appreciate the beauties of nature have been for several years noting with much pleasure the development of such interests by Mr. Paul G. Howes of Stamford, Connecticut. Even the pursuits of his younger days were decidedly more than ordinary and attracted much attention especially among those fortunate enough to be

vegetable and animal life, but there is a certain indefinable something that is perhaps the most nearly expressed by saying that the coming naturalist adds an intellectual zest to the ordinary outdoor, general, savage interest. It is not enough to be a collector. Many a boy has taken an active interest in postage stamps, but has never become a postmaster general, a postmaster or even a letter carrier. There have been many bird stuffers and collectors who were



THE MAPLEWOOD MUSEUM THAT WILL GROW.

personally acquainted with him. But boyish interests in natural history are not unusual; every boy roams the woods and fields, swims in the ponds and wades the brooks, and thereby gains a certain general knowledge of

very far from being ornithologists. There are plenty of fishermen and clam diggers who never become scientifically interested in the subject of their pursuit. There are plenty of sailors who have been around the world and ac-



THIS VIEW GREETES THE VISITOR UPON ENTERING.

quired a variety of languages, who are far from being linguists. It requires careful and prolonged observation to predict whether youthful interests in natural history are really in nature, in the pleasure of collecting, or merely the expression of general animal satisfaction in outdoor pursuits. But taking all these into consideration and having observed Mr. Howes for several

years, the writer ventures to predict that he is safely beyond the danger of being a "has been" in nature study. We are glad to report that he seems to have come to stay and that his staying qualities will undoubtedly be especially beneficial to this vicinity.

From a small collection started many years ago, his Maplewood Museum has become in itself an interesting study



A "HOMEMADE" HABITAT GROUP.

because it is a tangible expression of the owner's mind. It was not built to follow an order nor as a monument, nor as a bit of philanthropy; it did not come from outside to the inside, but is the result of an inherent instinct pushing itself outward into visible expression. When talent of this kind is discovered or, rather, becomes self-evident, full scope should be given for its development and we are hoping that some means may be provided whereby this growing museum may grow even

note that Mr. Howes is advancing along similar and allied lines, and that he is doing much not only in developing his own interests but those of others. Though the museum is strictly private he makes every possible effort to have visitors inspect it and go away in clearer and more positive notions of natural history observations and pursuits.

One particularly charming room is the center, pictured with a small reading table cozily placed in front of a



AN ESPECIALLY COZY CORNER.

more rapidly. Such an adjunct to the equipment of our Arcadia, under the supervision of a young man like Mr. Howes with all his enthusiasm and hopeful outlook toward the possibilities of even more extensive development, would be ideal in our relations to The Agassiz Association. But whether Arcadia ever has such a department or not and whether it ever fulfills the long cherished ideals of development of a local Institution for collecting, exhibiting and working among objects in natural history, it is encouraging to

stove; at the right is a large habitat bird group arranged by Mr. Howes. Here are the nuclei of two essential features in laboratory development and in the change from the old ideas that a museum is only a collection of specimens in cases. The modern intention is to show the creatures as they were at home, thus approaching as nearly as possible the idea of a zoological garden where life is exhibited in its outdoor activities.

The working laboratory is well equipped with microscopes for careful



THE LABORATORY IS WELL EQUIPPED.

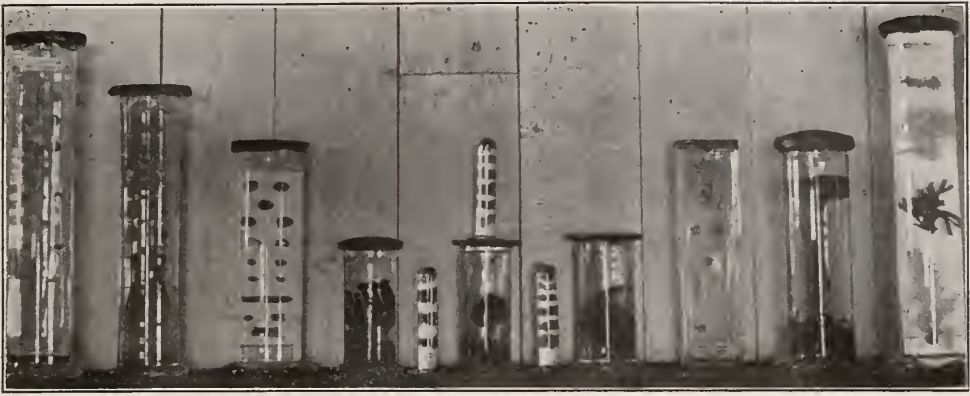


MR. HOWES IN CAMERA STUDIES AFIELD.

study, tools and all sorts of appliances for dissecting and mounting. One can here see the beginning of things and also perceive the owner's inclination toward a careful and systematic arrangement of his work. The joy of doing is in doing well. Though my call at this museum with a camera was totally unexpected, not an object was out of place. Order is Heaven's first law, but is likewise the first, middle and last law of a laboratory or museum. Here we see this law well exemplified.

Another excellent characteristic is in the fact that Mr. Howes makes his studies at first-hand. Every specimen in the museum means himself; I did not find one that he had not produced or did not obtain by his own personal effort. Such souvenirs of the day's tramp are of far more value than those purchased of the dealer. More than the delight in the thing itself are the memories that cluster around each thing.

We are hoping to see the museum



AN ATTRACTIVE SHELF OF VARIOUS PREPARATIONS.

grow, and to see this or one similar to it in connection with the work of The Agassiz Association. At present what is needed by Mr. Howes, and also by The Agassiz Association, is more room. There are plenty of enthusiastic collectors to obtain good material, and the satisfaction of the public in examining such material, when properly displayed, is all that could be asked. However, the one thing needed is a local Institution where the efforts of nature lovers may be concentrated, each contributing his own share for the good of others, the whole to be under the management of one as enthusiastic as is Mr. Paul G. Howes.

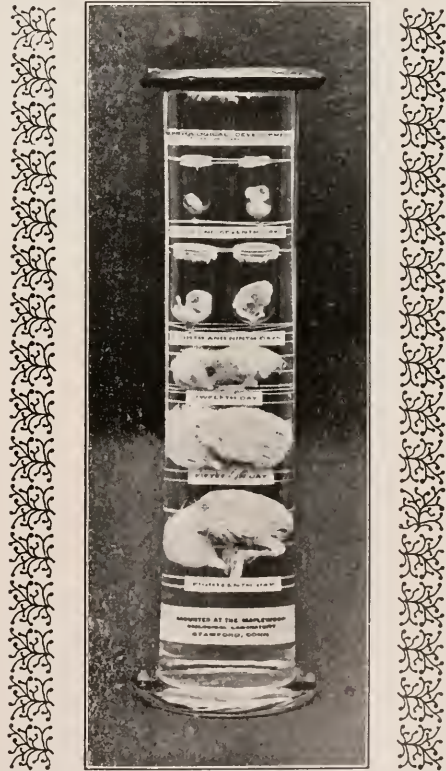
Long live The Maplewood Museum! May it soon greatly increase its capacity so that this section of the Connecticut coast may have a museum in size and equipment worthy of the local material to be obtained so abundantly and so easily.

A Personal Letter from Mr. Howes.

In response to an inquiry regarding his earliest interests in nature, and the establishment and work of the museum, Mr. Howes writes to THE GUIDE TO NATURE as follows:

Just when and how I became interested in the many varied, and wonderful fields which nature affords, is more than I or anyone can rightly say. In some people this love for the natural beings which surround them is an instinct, it is born in them, and it remains indefeasible, to enrich their life

with happiness and pleasure never to be enjoyed by those who follow the usual narrow path of existence. I remember once seeing a squad of prisoners being led by their keepers to their daily toil. Always in a line they moved, never glancing to the side,



EMBRYOLOGICAL DEVELOPMENT OF THE CHICKEN.

never changing their expression and never attempting to break away, simply because they did not dare. Since that time I have seen hundreds of people in the same position, as were those prisoners; always moving in the same way, never expanding or trying to make a break for the freedom which nature offers them, because they are afraid to leave the beaten track of their "prison" grounds.

These are the people who need help. To aid them is one purpose of the Maplewood Museum of Natural Science. Many visitors have come to the mus-

there are some twelve or fourteen branches of biology each of which is well represented at the museum. The key to a good collection of any nature lies in the one who has made it. Nothing must be allowed within the cases unless absolutely authentic in its smallest details. If a specimen is puzzling to the student of natural science he must simply keep at it, and sooner or later he will begin to see things through a different pair of eyes, he will be able to see the why and wherefore and to unravel the tangled threads which jealously bind the mysteries that



PART OF THE INCUBATOR ROOM AT THE MAPLEWOOD BIOLOGICAL LABORATORY.

eam with an expression which clearly reads, "Well I might as well get it over with." But how quickly it changes when they find out how many things there are at their very door that they have never even dreamed of.

One does not have to collect "bugs" to be a naturalist, but this seems to be the popular idea of all nature study. Why should we devote our entire attention to one family of the insect kingdom? I started with the butterflies and each succeeding year as my interest grew stronger, a new branch was taken up, so that at the present time

surround the solution of each and every problem in science.

To me, the solving of these nature problems has always been the most fascinating part of my scientific work. To know that you have worked them out unaided is in itself sufficient reward for the time and labor so spent.

During the past four years I have made careful observations of the museum's visitors in an effort to discover what was of greatest interest to them. This center of interest proved to be in two or three particular preparations which show the complete



A SERIES OF BIOLOGICAL PREPARATIONS.

embryological development and anatomy of a bird as it is within a hatching egg. These mounts caused so much comment and attention that I decided to place them on the market. Since that time many have been purchased and I believe that this idea has been of greater value and benefit in starting an interest in nature than almost any other work which has taken place within the Museum or Laboratory.

The eggs for these preparations are placed in ordinary incubators. On the days that the most important changes take place, the embryos are removed and after being treated by two different processes which consist of chemical baths, they are mounted in glass jars and preserved in a certain solution which I believe is my own secret. Before the embryos are placed in the jar, a slip of plate-glass is cut to fit the inside diameter and to this the labels

and embryos are tied with heavy waxed threads. The cover of the jar is then hermetically sealed to the lip, after which the whole cap is brushed over with red wax to give the preparation an attractive finish.

All kinds of specimens may be mounted in this way, but each color requires an entirely different proportion of the preserving solution. Nor is it possible to use the same solution for the same color if the specimens belong to different kingdoms! Thus it would be useless to try to preserve red animal matter with the same solution which would be used in the case of red plant matter!

How typical of nature this is. It is the way she runs everything, and one who would know her ways and learn her creatures must be ever ready to face the hundreds of problems that seem so indeterminable when she hurls them at your brain.



CORRESPONDENCE AND INFORMATION

The Mill Wheel Fifteen Years Ago.
Stamford, Connecticut.

To the Editor:

We were greatly interested in the history of the Old Wire Mills in your magazine for January. The enclosed



THE WHEEL FIFTEEN YEARS AGO.

photograph shows the old wheel as it appeared about fifteen years ago before some one cut the big axle in two as shown in your illustration, thus letting it go down the stream for freshets and time to send it to its total destruction.

We have been told that this was one of the first, if not the first rolling mill in the country and that these early promoters of this mill went to Pittsburg or that vicinity and started the industry which is now so great in that part of the country.

The woodman and his axe are

gradually getting in their work in the spot which nature has made so beautiful and where the children and the picnickers gather in large numbers during the summer months to enjoy the cool refreshing air, will ere long be but a memory of the past.

Yours very truly,

MRS. R. M. CLARK.

A Huge Ash Tree.

Long Ridge, Stamford, Conn.

To the Editor:

In the heart of the village of Long Ridge, in front of the Universalist Church, there stands a black ash which,



THE HUGE ASH TREE.

for girth and symmetry, surpasses all other arboreal growths in the vicinity. In the picture which you took of this ash, the man standing against the tree is Mr. Charles W. Smith, a lifelong resident of the town. He relates that when he was a very young man, say, fifty years ago, Mr. Selleck Scofield, who was then well along in his eighties, told him that when he (Mr. Scofield) was a boy, he had bent that ash over to cut it with his jackknife. It was haying time and as the men in the field were short of forks, Mr. Scofield looked about for a branching stick to use as a tedder. The little ash had the desired fork, but after he bent it down, it seemed to be so nice and sturdy a little thing that he let it fly back, trimmed it, and there it stands to-day.

There is another tree you should have in your collection. This is a mammoth oak, standing close to the road on the old Woodcock place in Bedford village. Connected with it is an Indian legend of colonial interest.

WALTER P. TERRY.

Observing and Taming Birds.

New Canaan, Conn.

Dear Secretary (of the La Rue Holmes League):

You mention that song sparrows are rare winter visitants in your locality. There is a certain swampy thicket, a few square yards in extent, which borders a pond near my home. During the past two winters I have found a solitary song sparrow there whenever I visited the spot. The small thicket seemed to be his sole home and feeding-place; he seldom or never wandered from it.

I understand that the vesper sparrow is an occasional winter visitant in southern New Jersey; in Connecticut, however, this species is supposed to be strictly migratory, arriving in April, and departing in October; nevertheless, I saw and positively identified a vesper sparrow near my home on December 8th last. I have one record for the hermit thrush, January 10, 1910; bluebirds and robins are present at all times.

During the past December, January and February myrtle warblers have been quite common, but have been absent since February 25th. Besides these summer and migrating birds, we have the usual winter residents—brown creepers, tree sparrows, hairy and downy woodpeckers, flickers, shore larks, starlings, blue jays, meadowlarks, redpolls, goldfinches, juncos, winter wrens, nuthatches, chickadees, etc.

I have found the work of bird-taming less difficult than some authors intimate. Last December I tamed some chickadees and nuthatches within two hours, and for six weeks after that (until I ceased visiting them regularly) they seemed to be quite without fear. They would fly toward me when I approached, and eat suet from my hand as long as my supply lasted. On one occasion I had a nuthatch eating on one hand, a chickadee eating on the other, and a second chickadee fluttering about my feet, picking up the crumbs. By watching them at such close range I was able to make many interesting observations.

Thanking you for the blanks, I remain.

Yours very truly,

HAROLD E. JONES.

City Park Oasis In A "Desert."

Stamford, Connecticut.

To the Editor:

I am sending you to-day a few pictures taken in Halloween Park in this city. I think that few people know of the beauty hidden away behind the knoll that you see as you ride by in the Shippan trolley car, but it is there.

The impression left on my mind, when I first rode by the park after it had been filled in, was one of utter desolation, for all I could see from the car window was a fine expanse of sand or rather, I should say, an expanse of fine sand, and gullies banked up by walls of dried mud. But if you will alight at the entrance of the park and walk toward the east for three or four hundred yards, till you reach the other side of the knoll, you will be agreeably surprised by the beauty which nature,



assisted by our city fathers, has given us.

The pictures show only one or two



VIEWS IN HALLOWEEN PARK, STAMFORD, CONNECTICUT.



AN ENTICING PATH.

points, but I am sure it is worth any one's time to take a trip to the park and to carry home not only memories

of the natural beauties there displayed, but photographs of the actual scenes.

A. L. EMBREE.



A RESTFUL SPOT BY STILL WATERS.

JUMP!



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but A LIFE.

Vol. IV. No. 2

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, Under Act of March 3, 1879

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We are but farmers of ourselves: yet may
If we can stock ourselves and thrive, uplay
Much, much good treasure for the great rent day.

—*Mr. Donne.*



And finally, with some instruction and not a little amusement of a quiet sort, I have farmed with the plow of a perennial admiration, and inquisitiveness, all that world, both of men and of nature, which lies so pleasantly around me. By using my farm not as an end, but as a tool, I have cultivated with diligence all the greater fields of life which I have been able to reach.—*David Grayson.*





JUDGE JOHN CLASON ON THE BANK OF HIS FAVORITE SPRING, FILLING A BOTTLE WITH THE CLEAR AND ALMOST ICY COLD WATER.

"Luke Smith said to me that one winter long ago the ground froze dry and there was no rain till February. That spring supplied five families around here. It has never been known to be dry—always the same quantity of water running there."

DO NOT EXPECT OTHERS TO SUPPORT YOUR MONUMENT

No man has any right to name any institution unless he makes it self-supporting by an endowment.—*Judge John Clason.*



THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

JUNE 1911

Number 2



He Recognized a Debt to Humanity

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



FOR none of us liveth to himself, and no man dieth to himself."

The absolute isolation of any object in all the universe does not exist.

The remotest star has its effect and is affected by others, and the smallest diatom is dependent for its existence upon its surroundings. They and we are parts of a whole, from which we receive and to which we should give.

These thoughts came to mind when I first met Judge John Clason. I had called at his home near to nature in the beautiful country north of Stamford, and was informed that I should find him at his barn, "For," said my infor-

mant at the door, "he spends much of his time there—likes to do the chores and attend to his oxen himself."

Up the road to the barn I went and there I found him.

Good morning, Judge. I am from THE GUIDE TO NATURE. I understand that you live near to nature and that the public has an especial interest in you because you have given many thousands of dollars to establish the Stamford Hospital.

"Hump," he replied, "that isn't much. Everybody ought to live near to nature, and I never gave anything to the Stamford Hospital. I paid what I felt was a debt that I owe to the community. I'd be mighty glad if they would call it 'square.' I feel that Stam-



"UP THE ROAD TO THE BARN I WENT AND THERE I FOUND HIM."



"I PAID WHAT I FELT WAS A DEBT."

ford has done more for me than can be repaid by a few thousand dollars."

A few, I exclaimed; I heard it was many.

"Oh, only forty-seven thousands, and I owed more than that. I believe every man owes a debt to others, and he should pay as much of it as he can."

Then Judge Clason told me of his father, of his brothers and sisters, but he had not proceeded far before he said as if still thinking of my queries, "I admit I had a hard time getting started, but do not give me too much credit. When I was a boy I worked eight months for a farmer for fifty dollars, but in later life things went more easily, and Stamford helped me very much."

Then in reminiscent mood he continued, "Used to be able to get best men in haying time at a dollar a day and board. That house down by Nonsense Fort where you have been I built in Civil War times. Could get the best carpenter and mason at a dollar a day. Hemlock boards and 'siding' one cent a foot. I dug the cellar, had a man and three yoke of oxen. Cost in all only about eight dollars. At one time in

the war we began to think we should be 'whipped' and things got to low value."

Have you been a farmer all your life?

"Yes, mostly. Yes, have raised as much as fourteen hundred bushels of ears of corn on the farm. I was born on the Dr. Morris place that you have described in *THE GUIDE TO NATURE*. I was born in that house. I sold all of the place except one tract of woodland. Have only some thirty-five acres now—just a garden spot. You perhaps wouldn't believe it but I've seen the

has made me especially appreciative of those who helped me in the 'learning.' I wanted to do something for Stamford. I asked E. L. Scofield what was most needed, and he said a general hospital. In a few days I went into his office and laid forty-seven thousand dollars on his desk—and that is all I did."

I suppose you have always lived near to nature.

Yes, most country boys do—or rather I should say they used to in my time. I used to catch partridges in snares, but never had much skill in



JUDGE CLASON'S HOME NEAR TO NATURE.

time when on every rood I'd get a big load of hay."

What made you think of giving money to the hospital?

"I didn't think of it. I only remembered what I owe to humanity. Think of it as you please, what is all the gold worth? Sometimes men forget they are human beings. I had a good father, but I guess I'm better off than if he had left me much money. He didn't leave me any. I have had to learn some things for myself, and that

catching trout. Only a few men have. But Daniel Barlow could catch them."

I suppose he must have been your "Uncle Dan." Most country boys have a hero called Uncle Dan, though he may have some other name. I had one.

He listened patiently to my interruption and then continued:

"I used to go hunting some—guess all boys did."

What work on the farm do you like the most?



"I LIKE . . . TO WORK WITH OXEN THE BEST OF ALL."

"I like the woods, the rocks, and to work with oxen the best of all. I like rocks and hills."

Then he entered into an extended eulogy of H. O. Havemeyer as a naturalist. "Few men knew how much of

a naturalist he was. You should have heard him exclaim over a beautiful view. Every man has his hobby. H. O. Havemeyer's was to get near to nature—the nearest of any one I ever knew. He even wanted the moss on



IN THE BARN-LOT HAYFIELD.
" 'Hay—hay,' he repeated delightedly.

the rocks and the walls. He had a new wall built and he wouldn't let the men knock the moss from the stones. Cost I guess a hundred dollars a rod he was so careful.

What crop on the farm do you like the best?

"Hay—hay," he repeated delightedly.

What next?

"Potatoes. I've got as high as one hundred dollars an acre for potatoes. But I guess best of all I like to care for oxen. They know you, and they appreciate what you do for them."

better member of our fraternity by meeting so good a member as you.

As he laughed and shook my hand cordially, he said, "Perhaps I am. Come up again, come frequently, and I shall know better what I am!"

The Manner and the Spirit of the Gift.

DICTATED TO THE EDITOR OF THIS MAGAZINE BY ATTORNEY E. L. SCOFIELD OF STAMFORD.

One morning in December 1892 Judge John Clason came to my office and stated that he wished, in some



"I ENJOY THAT ORCHARD, AND IT BRINGS GOOD RESULTS.

One year I gathered eight hundred barrels of apples—made net income of over one thousand dollars."

Now that is being a lover of nature—to revere the rocks and the hills, to delight in growing things; faithfully to care for some favorite form of animal life; to find one's greatest pleasure in observing the simple everyday things of nature, and to live and do for others that by our conduct the world may be better. You are a genuine naturalist, and (as I gave his hand a squeeze) I said, I am glad to have met you. I have been inspired to be a

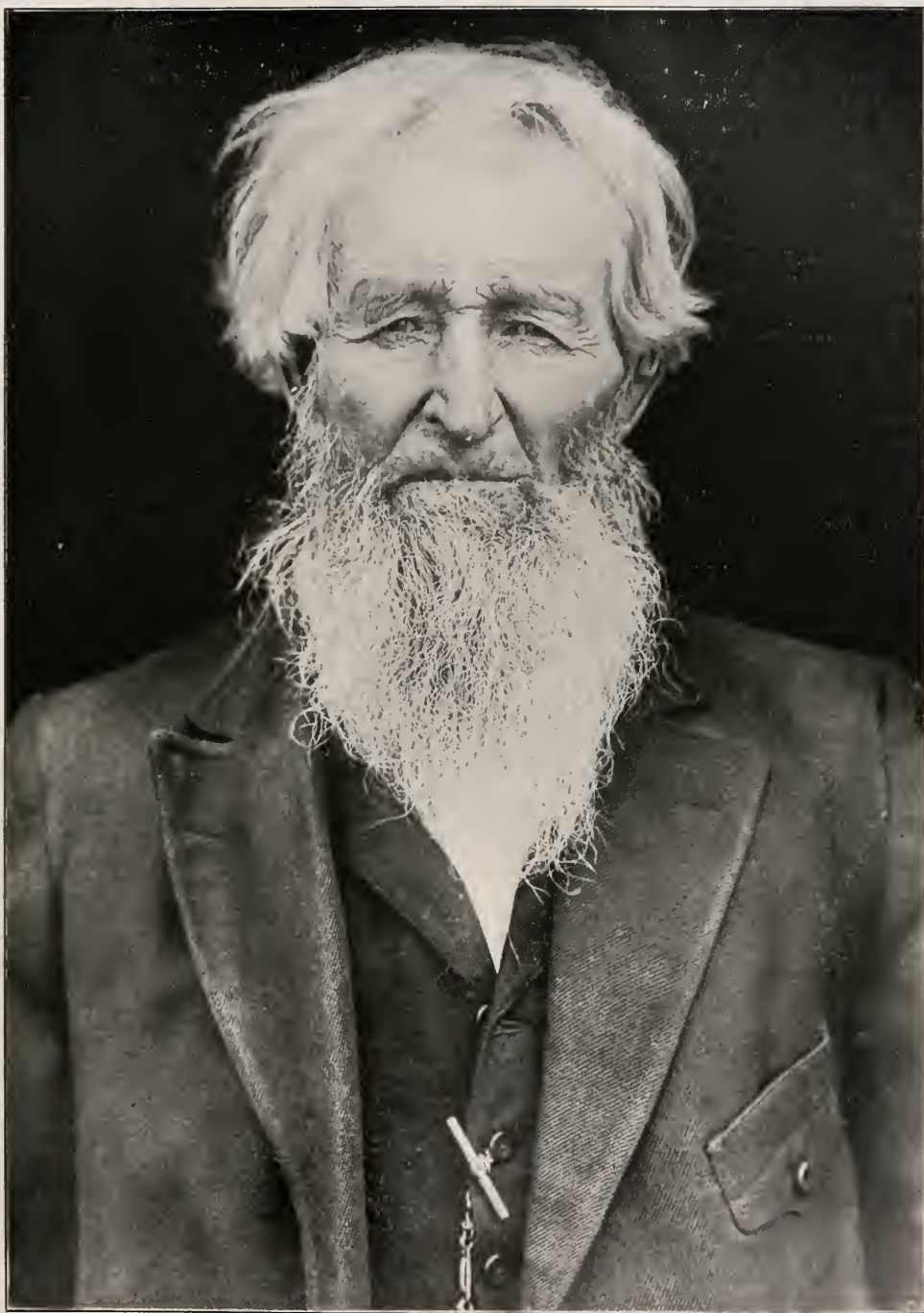
suitable way, to testify to his fellow townsmen his appreciation of the kind treatment and high honors which they had bestowed upon him, but did not know just what use to make of certain property he was about to part with so that the greatest possible public benefit could be secured, and thereupon sought my advice in the matter.

I told him that there was nothing that so strongly appealed to me as a public hospital, the necessity for which



JUDGE CLASON GOING DOWN TO HIS SPRING TO FILL HIS BOTTLE.

in the community was certainly very that the property which I propose to apparent. After explaining to him part with should be used for hospital how far reaching the benefits of a purposes. On December 8th, he hospital were, he said I am convinced brought to me certain stocks and bonds



JUDGE JOHN CLASON.

Judge of the Court of Probate for the District of Stamford from January, 1877, to January, 1887.

Photograph by Edward F. Bigelow.

having, as I recall, a then market value of about \$47,000, and said, take and use this property whenever you deem it proper for the erection of a hospital. I suggested that he create a trust and join with me as trustees

Mr. George H. Hoyt and Mr. Charles A. Hawley. I thereupon prepared, and he executed, a trust deed placing the securities in the hands of the trustees with authority to turn over the property to the hospital when a proper charter had been granted and the trustees were satisfied that this gift, together with others to be obtained, would reach an amount sufficient to warrant the establishment of a hospital.

A charter for the hospital was granted May 9, 1893, and the trustees decided that when \$100,000, inclusive of Judge Clason's gift, had been raised, that they would turn over the fund to the hospital corporation. This sum was raised in the fall of 1895, and the fund was then turned over and the present hospital property was purchased, and on May 1, 1896 the hospital was opened up for service.

Many of the subscribers to the fund

were desirous that the hospital be named the John Clason Memorial Hospital, but Judge Clason strenuously objected to this as it might be the means of interfering with future subscriptions, and insisted that the name be the Stamford Hospital, by which name it was incorporated.

From the time when the gift was made to the present Judge Clason has been in every conceivable way deeply interested in the hospital's welfare. He has not only made additional subscriptions of some \$10,000, but has been instrumental in inducing others to subscribe for the hospital's maintenance. Until prevented by failing health he had been accustomed to attend the commencement exercises of the hospital training school and award the diplomas to the graduates, always with appropriate expression of interest in them and in their work and in the work of the hospital.



In Haying Time.

BY EDWARD F. BIGELOW, ARCADIA: SOUND BEACH, CONNECTICUT.

"Are you getting up? Come; it's time—past time. The hog is standing on his nose, and the dog is picking cherries in the apple tree. Come! Do you hear? Most noon! Lamb and Lion" (a favorite yoke of oxen) "are hoeing your watermelon patch and want to know which one they shall crack on the stone and eat in the shade of the ash tree. Are you co—"

That last appeal, or perhaps the persistence of the call and increasing volume of tone, partly awakened the country boy, sufficiently so to get him drowsily out of bed, with wonderment

as to why the sun was so bright. It must be admitted that it was surprisingly late.

The father indulgently allowed "the boy" to sleep a little later than do most farmers (possibly he was a boy once himself—which many farmers and fathers evidently were not). He also had a theory, or a humorous notion, that the "juxtaposition of incongruous concepts" would awaken.

He had a few times carried this spirit of paradox to an extreme, as some sad experiences proved, and he no longer cried, "Fire, fire!" nor, "John has fallen down the well." There are some things, and they are theoretically good things too, that in practice do not



FORENOON—THE RANK AND FILE OF MOWERS.

work smoothly! But over that early formative period of experimenting in the best method to rouse a sleepy boy, there are some things, out of respect to the father, that are not to be described at this late date. Suffice to say that he substituted the ludicrously impossible for the catastrophical,—and it is by odd yet harmless mix-ups that he will best be remembered.

* * * * *

If it has taken long to tell how the boy was called, then *vice versa* the cases

are parallel. It took the boy long to respond,. But it really was early, though the boy had a conscience-stricken feeling that he had not been participating in the music of the grindstone just under his window. Did all mornings in haying time begin with the yaw-hawing of men, the metallic striking of scythes on a purring grindstone, with anon a squeak and with the crisp, rhythmic swis-s-ching in dew-covered grass, with John's jolly call, as the boy appeared at the corner of



AFTERNOON—GETTING THE CROP TOGETHER.

the house, "Little late. Guess you overslept. We're getting ahead of you. There's a fork."

Now the dooryard was a minor matter. It hardly merited the labor of full grown men in the hours between breakfast and noon. It was a time-honored custom to do that work before breakfast. It was an appetizer for the scythes as well as for the men and the boy. The wet and glistening grass must not only be mown before break-

for ten mornings—in as many years. And perhaps memory has played the trick of massing together all the ten and multiplying them tenfold. At any rate, a hay day that did not begin with an early call, if the sunshine did not make a little bright triangle in the corner of the attic bedroom, if the music were not mingled with jokes and laughter, surely it could not be a hay day, but only a performance with-



IT TAKES A HAYING FIELD TO GIVE THE KEENEST APPRECIATION OF "THE OLD OAKEN BUCKET."

fast but it must be spread. And there lay the apparent delight of the men, and the real trial of the boy. It always seemed as if the men were never in spirits so bantering and jocose, as when they mowed that dooryard. It was so light and frivolous an affair, so near to the house and to breakfast, that the serious work that they applied to "the big meadow" would have there been out of place.

But did they mow that dooryard every morning? The question suggests a psychological study in these later years. And why did they always laugh as they mowed that yard? Surely they mowed it over and over

out an overture, a start without a beginning.

* * * * *

But now, after breakfast, comes Fred stroking back his long mustache, tucking up one perversely unrolling sleeve, and eyeing John as one gladiator might eye another, while the mowers, half a dozen or more, were taking scythes, rifles and whetstones from sundry branches of the pear tree, from braces and beams in the woodshed, and here and there from an overturned box. There were gruff but good-natured accusations: "That's my whetstone—you let it alone" or "Don't you know your own scythe?" But

these amounted to nothing more than the threat of a sparring match between Uncle Dan and Joe, who kept their scythes on the roof of the henhouse. Uncle Dan, as he sometimes admitted, was not "as spry as he used to be," and a fall backwards over the chopping block brought forth a general yaw-haw, and the favorite witticism that he "wouldn't stand it till noon; got knocked out before the battle began."

And so it has been from time immemorial; the hayfield, especially in the morning, is commonly regarded as a place in which to "outdo" some one, or to "get knocked out." This feeling is common to all, but Fred and John were regarded as especially prominent opponents. Indeed, John confided to Uncle Dan that he had "better look out. Joe's got it into his noddle that he can do you—just a big fool idea Fred's got that he can 'wind' me on the first turn. I rather reckon he'll find out along about 'leven a thing or two he don't know now. Didn't

you notice that I just stuffed it into my shirt—about all I can carry?" In haying time, it is now generally believed, and years ago was even more generally thought that the amount of work depends on the quantity of food eaten or, as it is often expressed, "stored away in the shirt."

Consequently, along about ten in the morning, we had a hearty luncheon, really a dinner. Every day in haying time, and the single day at Thanksgiving, were rivals in the supply of food, without haying time far in the van, with its four meals, each of which in amount and variety, easily surpassed the single shrunken and half-forgotten Thanksgiving Day.

So the contesting mowers prepared themselves, and every man regarded every other man's hand as being against him. No employer need urge, because every man was keyed to the highest pitch and was ready for the real or supposed contest.



A REST AFTER A FROLIC IN THE HAYFIELD.



THE OXEN AND THE HAY CART.

The champion needed no prodding to declare himself. He who had held the record in the past, as if by right of prestige it belonged to him, struck in first, and unhesitatingly mowed through the center of the lot, and then came the tug of war, the real display. To prove that he had lost none of his right of supremacy without slacking in speed, he turned back a doubler through the entire length of that field, while the others carried ordinary swathes.

How modestly conscious he was of the eternal fitness of things, of his power to excel the others. No boasting from him, no admission from the others, that he was by right their leader—and yet there he was. The wisp of hay with which he wiped his scythe was larger as befitted a handful taken from a doubler turned by a champion. How small were those taken by the others; how pitifully lispings their “a-wink, a-wink, a-wink, a-wink” of the rifle first on one side of the scythe and then on the other. How strong and exultant was the “a-wrank, a-wrank, a-wrank” from the scythe of the doubler!

It was easy to see that Fred had

won. He stopped not for parley nor for rest. The doubler had been thrown in as a challenge. It must be sustained. And it was. The strong muscles, the firm determination, the full shirt had won.

* * * * *

Then came the noon shirt-filling—more as if for celebration than contest. It lasted for only an hour, but it was an era. The sun changed from east to west; the scene changed. Can this be the same hayfield. All seems so different. Unless the crop were unusually heavy it had dried enough for raking. The man ahead was now in the rear, thus in a different point of view still showing his championship because the last raker has his own hay and that of all the others. Still he marched up the quadrupling or sextupling windrow in the same masterly manner. He was disproving the truth of the time-honored maxim, “Many hands make light work.”

The haying day is a year, a round of the seasons. This now is the Indian summer. How long ago it seems since the golden sunshine streamed into the corner of the window, and all things outside were crisp, cool and growing.

Then it was springtime and the music was sweet and sharp like that of the earliest "peepers." Now the lights and sounds have become mellowed by the age of the day. How quiet and subdued is that indescribable murmur of the rakes as they toss the crisp hay. Fred has won his laurels; his claim is undisputed, and he rakes with the manner of one who in late years enjoys vast possessions. And who shall envy? He has earned what he has. Uncle Dan has grown older, his beard is whiter, his movements are less youthful than in the morning. He offers Joe no sparring match. He is more retrospective, as those grown almost a day older are apt to be. He told of his haying experiences in the long distant morning of his life. He even confided to the boy a reminiscence of one great fishing day, when it rained in the midst of haying time. As he enlarged and became enthusiastic on how he "took them in," he seemed to be in the spirit of the field. One could almost see, or at least almost feel the comparison of

long windrows and great haystacks of fish! * * * * *

"Get the oxen, boy; we'll be ready by the time you get here." The oxen and the hay cart were in the shade of the big elm, for who ever saw a hayfield that was really worth while that did not have a big elm, usually about one third of the way across from "the bars." What poetry of motion in the graceful curves of those forkfuls of hay as they moved upward! There was pride in "keeping up" with the fork. "Don't get behind; if you do it is hard to catch up. You see you don't have the help of the fork then; you have to do it all with the rake." Keep up with the fork. Your own little scratching rake cannot do it all. It is the fork that does things by the wholesale and in a masterly manner;—keep up with the fork!

Would artist or photographer portray the winding country road at its best, he waits until the load of hay goes home. It is the fullness of all things; it is the fruition of the turning



HORSES MAY BE QUICKER BUT SEEM NOT SO FITTING.

Photograph by James Victor Feather, Huntington, New York.

of the doubler and all else that has followed. You can see in that load the masterly strength of Fred and the reminiscences of Uncle Dan. But if you have not advanced beyond the purely practical, you will see, as then the boy saw, a lot of sweating under the stuffy rafters. "Tuck it away down there; don't be afraid to squeeze it in. Will be hard to get it all in any way." But one bright hope sustains him—that delicious sweetened water with a dash of vinegar, and, Oh joy! perhaps a "fried cake" with it.

Down from the haymow come the boy and Joe. Fred did the pitching, and, true to his rank, he kept them busy. It had been a fight for life, for Fred seemed to have a grim determination to bury them alive. Reeking, sweating, veneered with seed, they come out of the furnace to enjoy the delicious drink. It is a mingling of sour and sweet; it is always associated with the hardest work. Oh, epitome of life!

"Back out; leave the cart under the cherry tree. Unyoke the oxen, put

them in the pasture, and drive the cows home."

* * * * *

After milking and after supper, the twilight conclave assembled under the cherry tree. Some sat in the wagon, some on the wall and a few on a pile of planks. All smoked because, of course, that would drive away the mosquitoes. What stories, what jokes, what tales of other seasons. If a stenographer with ten hands had been there, and with each hand had written double strokes, he might have recorded perhaps a tithe of the words that flowed in a surging, roaring flood from every man's lips; but now they remain only as an echo, faint and far, and growing fainter, as the boy grows older, and grayer, and closer to the end of his swathe.

"Oh, too hot to go in to-night. Let's spread out the hay left on the barn floor and put on it the sailcloth."

"We'll do it."

And the boy tries it too. He is really getting to be quite a man—in haying time. When the jug had been brought



"HE WAITS UNTIL THE LOAD OF HAY GOES HOME. IT IS THE FULLNESS OF ALL THINGS."



STACKING IT IS MORE COMFORTABLE THAN MOWING IT—AND MORE PICTURESQUE.

out, Fred had condescended to say so, and that was joy enough for one day.

* * * * *

"Whas-s that!"

"Nothing but a night hawk. Now you go to sleep, boy, and let me sleep, won't you? You're worse than Uncle Dan's snoring."

Then Uncle Dan turned over; the night hawk swooped only once or twice again; even the humming of the mosquito seemed to go dreamily farther and farther away—away-y-y. It was the end of a day, in haying time!

Nature and Science.

"The present age is both a material and scientific one. It is unlike any which has preceded it. It did not come by conquest. It broke upon us as quietly as the dawn of a summer morning. It has witnessed a new love for Nature and an added interest in her wonderful secrets and processes. It is an age of searching inquiry and close discussion. The false and the sham will be revealed; that which cannot stand discussion will go to the wall; the truth will work its way out. It is not only an age of demolition, but one of accomplishment. It is an age of material development, for it is an age

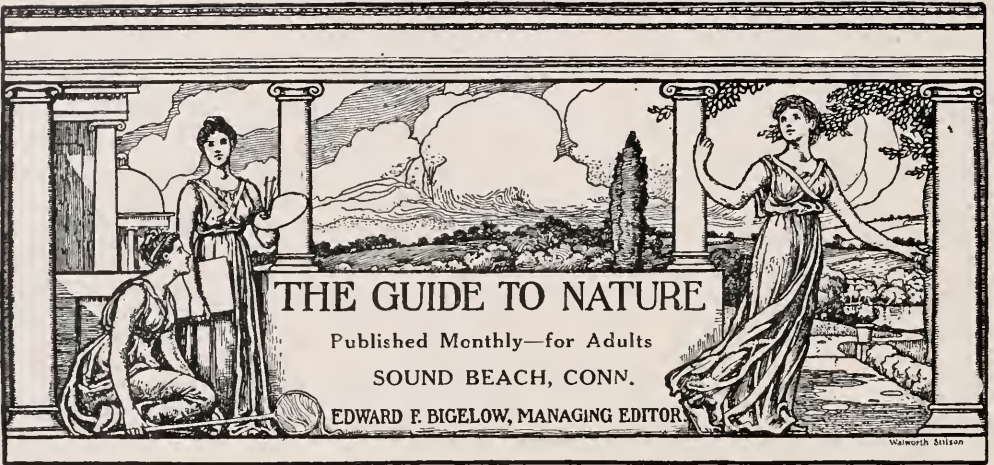
of constructive genius. It is an age of intellectual energy, for it is an age of disciplined thought. It is essentially an age of scientific knowledge and scientific power.

"Science is the interpretation of nature. But nature is manifest in the butterfly, the squirrel, and the robin, as well as in the mammoths of the deep or the mastodons of the ancients; it is in the opening blade and the blooming flower as well as in the burning mountain and the blinding storm; it is in the rocks and shells as well as in the invisible current which drives the machinery of our factories or that other invisible force which propels the machinery of our lives. There is science for the child as well as science for the savant. The activity of the child and the wisdom of the scholar each have their uses in unfolding the secrets of science.

"There is joy and fascination in nature, for the nature that is about us is in harmony with the nature that is within us.

"There's a blush on the fruit and a smile on the flower,
And a laugh on the brook as it runs to the sea."

—Andrew S. Draper in *"American Education."*



Paying a Debt vs Buying a Monument.

When Judge Clason walked into the office of Attorney E. L. Scofield and laid down forty-seven thousand dollars with instructions to use the money for what Stamford most needed, he put into practice a tremendously important principle too often forgotten or, if not forgotten, too often disregarded by many so-called or would-be philanthropists. Upon this act the angels smiled, and all good men and women said in their hearts, "Here is a philanthropist—just what the word means—a lover of mankind."

There was no selection of the most conspicuous corner to be occupied by a statue of himself, as was done in the drinking fountains in San Francisco, afterwards pulled down by an indignant public when the policemen were engaged elsewhere!

There was no imposing upon the community of an edifice to represent such a monument under the condition that I pay for the beginning and you will pay for all the rest, with the expectation that the local community would at once shoulder the burden, as is the case with some gifts of public buildings for literary or scientific uses.

There was no patronizing adoption of a natural scientist of supposedly phenomenal talents, whose light was expected to shine on the corner, faintly for himself and brilliantly for the donor, he to be unceremoniously

dropped when he was found to be no prodigy, but only hard working, self-sacrificing and generous, as was the situation with Luther Burbank and his outrageous treatment by the Carnegie Institution. Judge Clason did not say that this shall be built as I wish and used according to my plans. No. He said to his attorney, "Find out how the city needs it and where best placed." There was no exhibition of himself on the part of Judge Clason. He did not proclaim to the public, "Behold! Here am I, a great giver, a great patron. See what I am doing." No. He was inspired by only two ideas: first, I owe a debt to humanity; second, and I am going to find out the best way to pay it for the welfare of humanity. He was evidently willing that the money should be buried out of sight, or, perhaps, used, if that were best, to pay a town bond; for any purpose so long as it was for the "greatest need"—even if he and his money should have no tangible or conspicuous expression. He did not specify—no, hear his words, "All I ask is that they 'call it square.'" Not a bit of credit balance for forty-seven thousand dollars.

The beauty of such an act from such a man no words of laudation can exaggerate, no commendation make prominent enough as an example to other men. What credit, I wonder, will be for him on the books of the Recording Angel?

The Pest-imist Point of View.

I was recently invited by the Department of Microscopy of The Brooklyn Institute of Arts and Sciences to participate in the annual public exhibition of interesting microscopic specimens. I looked over my collection and took into consideration some especially interesting things that I had in process of preparation and selected the chestnut burr, the chestnut weevil, the ox fly, the house fly, the house fly's tongue, the house fly crab, and the seeds of the wild carrot. They were all intensely interesting and beautiful. At the exhibition they attracted much public attention and considerable editorial notice. Among the latter was "The Saturday Evening Mail," which published a full page description in the issue of April 22. The principal thing that attracted my attention was the heading, "Nature Pests under a Microscope." Of course, all the objects except the chestnut burr might be regarded as pests, but as a naturalist I never thought of these beautiful microscopic objects, the seeds of the wild carrots, as pests, though I admit that they may become pests to the farmer.

Perhaps when house flies get together in solemn conclave and discuss their trials and troubles they may regard the little red crabs that cling to their legs as pests, but I must confess that the house fly point of view had never entered my mind. The point that I wish to make, and which greatly impressed me, is the fact that the editor interpolated into these beautiful things from nature's microscopic realm the utilitarian, humanistic consideration. I might well ask why he could not be contented to treat them as a naturalist would do, and admire them for their novel, beautiful structure, with no thought for us humans, nor whether they are pests or allies for good. But I do not need to ask the question. I know that the editor acted according to his journalistic instinct; his editorial sense recognized the point of view best adapted to humanity. Does it affect us; is it an annoyance or is it a good? How few people there are who can

admire a thing altruistically! We must always interpolate the "I." Will it hurt us or benefit us; what is in it for us? I, I, I, I. The almighty dollar, the "practical," the utilitarian is so deeply imbedded in the human mind that few people can look at the thing as completely isolated from their own interests. I intensely dislike the word "pests" in the heading, but I would have equally disliked the word friends. Nature is worth while in herself whether as a pest or a friend.

Many centuries ago an astronomer named Ptolemy formulated a theory that the earth was the center of everything and that everything revolved around it. Though he got into a little trouble when he tried to explain the movements of the human objects of that theory, he arose equal to the occasion and with a series of cycles and epicycles tried to unravel the tangle, but the I, I, I, of the earth as a center was so perniciously and deeply imbedded in his mind and the mind of all his followers for some fourteen hundred years, that none of them could think of anything except the I, I, earth as the center.

Then along came Copernicus and stated that the earth is only one of many worlds, and things would go on fairly well even if there were no earth. He also stated that a body ninety-three million miles away is really the center of things and that after all we are not much. "There are others"—quite a number of planets.

So I protest against this Ptolemaic method of looking at things. Let us sometimes, most of the time, if we would understand nature rightly, stand off and view it from the Copernican standpoint. Those little details from nature's microscopic realm were of wonderful even miraculous beauty and interest. If they had been ninety-three million miles away from all mankind they would have been worthy of admiration.

I have not the slightest doubt that the talented editor of "The Saturday Evening Mail" understood all this and that he also understood mankind and his own constituency. I am not, there-

fore, criticising the editor nor humanity for holding the Ptolemaic idea; I am lamenting the fact, emphasised more strongly perhaps than the editor realized, that the millennium of the altruistic is, alas, not yet felt by many of us. This pest-imistic point of view is more annoying to me than house flies and chestnut weevils are to humanity, or house fly crabs to the house fly.

"Because I Killed His Pig."

A nature missionary, as well as any other should be eager to distribute literature pertaining to the Cause. Tracts pertaining to the Works are as important as those pertaining to the World. Of straight roads converging to the same point it makes little difference which you take, except as a matter of individual preference and thereby of efficiency. To that end I have always been ready to distribute copies of this magazine among friends and acquaintances. And I have always had my reward, not alone in the furthering of the business interests of The Agassiz Association, nor in the good The AA may do, nor even in my pleasure in receiving the personal gratitude of friends and acquaintances in exchange for "something for nothing—than you;" but it has chiefly been in personally noting the variety of idiosyncrasies and points of view that its recipients have of a nature magazine. A hundred copies of the magazine passed out of an afternoon bring in everything in the series from comedy to pathos.

"Have a copy, Mr. —?"

"Y-y-yes—I'll take one, and take it home for the children and Mrs. —; they'll like it—said the last one was 'great.'" (Curious, isn't it, how wife and children only are interested in "such things?")

Then as your conversation continues, he idly, with indifferent expression, turns the pages, glancing at the pictures, until suddenly he exclaims joyously, "Oh, ho! You've got a 'write-up' about Mr. —. Why I butchered his pig!"

Then the ice is broken. All one has

to do is to listen. You get the whole history of that family and especially of Mr. —'s interest in pigs, and incidentally one learns that Mr. — is not only a good raiser of pigs and has a fine estate, but has good judgment in securing the proper person to kill his pigs.

But it is not always killing pigs, in actual words, but other expressions that mean the same thing. It may be "doctored his son," "goes to my church," "I won his case for him in court," "I sew for Mrs. —," or "Why, his children go to my school," but in all there are only different words for the same idea—"because I killed his pig."

The point is that even a slight bond of sympathy or of knowledge adds to the interest. How could one be interested in a man, however famous, however interesting, however good, true and commendable, of whom he has no knowledge? But once you have killed his pigs, how all changes!

Now why are we and hundreds of other naturalists so intensely interested in every household in nature's domain? Because with some we have had long acquaintance, some we meet only occasionally, and of others we have only "killed his pigs."

Even wireless telegraphy requires the bond of ether, or "electrical strata,"—of something to make the connection. Postulate or produce the invisible connection and all else of personal interest may follow—one should at least "kill his pigs."

Blankness and ignorance bring no results. But once establish even a slight personal acquaintance and how anything further brings forth joyous expressions and exclamations, and preparation for full information. We want to read; we want to know all about it, if—if only—"because I killed his pig."

I have enjoyed the magazine very much. It takes me out of myself into the "big, wide world" for rest and enjoyment.—*J. W. Strassell, Rockport, Indiana.*

The Exploitation of the Trite

Though we print conspicuously on our front cover, *THE GUIDE TO NATURE*, the title of this magazine is often misconstrued. At least I surmise such misconception if I may judge from the trite, diary-like writings that are submitted to us by many naturalists. We do not want the repetitions of descriptions of objects from nature that are well-known, nor do we want an account of your individual enjoyment of the sunshine, of the song of birds and of the glories of the firmament. What we do want is something definite in your experience that will be helpful to other naturalists who do not know quite as much as you know. I doubt whether there is any real nature lover in existence who is not acquainted with the *Cecropia* moth, or does not know the surprisingly cunning ways of the toad. Nor do we want the life story of the monarch butterfly nor an account of the wood-cutting proclivities of the beaver. But we do want you to see something new and to tell it in your own personal and characteristic way. This matter of repetition of the trite has been frequently referred to in this magazine, but we have not said much in regard to the equally objectionable writing that may be designated under the general term "Inner Emotions." One of the best parodies on this style of writing is the following which was taken from a local paper and sent to us by one of our most esteemed subscribers.

A TRIBUTE TO NATURE.

Dear All Sorts—The other day I took a stroll through the fields and woodlands that I might commune with Nature, and I venture to write you of my observations.

The day was ideal.

The sky was blue and there was not a single cloud in its vast expanse.

The sun was shining brightly o'er hill and dale.

Green grass clothed the pastures with verdure.

Feathered songsters hopped from twig to twig or flew on airy pinions high aloft.

The trees were leafing forth into verdure.

Now and then a bee buzzed across my path in quest of honey which nestles in the heart of the flowers.

After a delightful stroll I returned home deeply impressed by the beauties of Nature.
Boston.

NATURE LOVER.

"Nature Lover," your observations are safe, sane and conservative. I have followed you very closely as per above and I can place my hand on my heart and testify that you have not exaggerated in the slightest particular. Theodore Roosevelt would never accuse you of being a "nature faker"—no, not in a thousand years. No reasonable person will deny the truth of your observations.

You say the sky was "blue" on this particular day when you observed it. I believe you. That is a habit the sky has—being blue. Many others have observed this fact. Just why the sky should be blue is not known, but those who have made a careful study of it know that it is, and anybody who would deny this fact must be color-blind.

You also say there was not a cloud in the sky and that the sun was shining brightly. Correct again. That's exactly what the sun does from morning until evening when there is not a cloud in the sky. Now, if you had admitted the absence of clouds and then had said the sun didn't shine, I would have been greatly concerned and would have felt called on to investigate the matter. A sun that would refuse to shine on a cloudless day is not doing its duty and needs to be looked after.

"Green grass clothed the pastures with verdure."

I am glad that you went on record as saying that the grass was "green." This shows that you are a close observer and have no wish to misrepresent the facts. This statement of yours to the effect that the grass was "green" will be accepted without question by every reader. To have stated that the grass was red or yellow or lavender or Helen-pink would have brought down on your head a storm of criticism from grass experts everywhere. Even the layman would have doubted if you had said the grass was any other color than green. We have become so accustomed to seeing green grass that it is almost impossible to convince us that grass grows in any other shade.

Also I am glad you said "feathered songsters." Now we know that the birds you saw did not wear fur. When John Burroughs, the famous naturalist, learns that you have described birds as wearing feathers, he will murmur, "That chap knows what he is talking about." From your further description of the birds you saw I infer that they had wings. You say "airy pinions," but that means the same thing. Now, if anybody doubts your statement that birds have wings, send them to me and I will give them a severe talking to. You can count on me to back you up in this matter, until your critics can produce a wingless bird.

"The trees were leafing forth into verdure." Right again! Every season about this time the trees have a way of doing that and anybody who denies it only makes himself ridiculous.

You say the bee "buzzed," which describes the noise a bee makes to a "T," and I believe your statement that the little insect was in search of the honey which nestles in the heart of the flowers. Why do I believe this? I'll tell you:

Nine times out of 10 when a bee crosses one's pathway it is in search of honey—honey in the heart of the flowers, because there is where honey nestles.

The Protection of Native Plants.

The Society for the Protection of Native Plants has printed on cotton for outdoor use notices reading:

SPARE THE FLOWERS

Thoughtless people are destroying the flowers by pulling them up by the roots or by picking too many of them.

CUT what flowers you take, and leave plenty to go to seed.

These notices can be obtained from the secretary of the society, Miss M. E. Carter, Boston Society of Natural History, Boston, Mass. We should like to add to the above notice that too many wild flowers are picked without any special object. Many of our wild flowers that are beautiful in their own homes lose almost immediately their freshness and charm when picked. Why not leave them where they grow for others to enjoy? Some people when in the woods and fields have a mania for picking every flower they see, although often it is thrown away without even being carried home.—Ex.

TWO OBSERVERS.

By Emma Pierce, New York City.

My friend and I a-walking go,
She fain would nature's secrets know,
Enough for me her beauty's glow.
We see a floweret in the grass,
I praise its color as we pass,
She stoops to pluck it;—then, alas!
Are dainty petals torn apart,
A cruel knife must pierce its heart,
(I almost think I feel the smart);
And leaf and stem and root must be
Examined carefully to see
If with the book they will agree.
And soon the flower, that, ere we came,
So sweetly bloomed, unknown to fame,
Lies buried 'neath a Latin name.
Which way soever we may go,
My friend would nature's secrets know,
Enough for me her beauty's glow.

Nature Study as a Resource in Life.

A GRADUATION ESSAY BY MISS MARION PACKER, (1911) THE CASTLE, TARRY-TOWN-ON-HUDSON, NEW YORK.

Among the most important ministers to culture—religion, art, literature, science, human relations and experience—nature holds the first place; it is, in fact, the foundation of all arts and sciences. The intimacy between nature and man began with his appearance on earth. Annually it grows more rational and far-reaching.

But man too frequently accepts nature as a matter of course, and fails to realize the full power of its marvelous suggestions for the enrichment of his life. Seldom does he receive from it all the health, the mental stimulus or even the physical exhilaration which it constantly and freely offers.

It is an important moment in a man's experience when he awakes to the natural wonders about him, for from that instant he sees what miracles the earth and the sky actually are and his spirit is changed and hourly changes. By a process of absorption he becomes a part of nature and nature becomes a part of him. They then live in an unity so intimate that they become practically inseparable until death separates them. To prepare even a superficial epitome of what men have learned from nature would involve the telling of the development of each man's personality and the history of his spiritual and cerebral growth. To describe it accurately and in detail would involve not a recapitulation, not an abstract of the natural sciences, but an encyclopædic rewriting of each.

It is difficult to explain the simplicity of our relationship with nature. Like the unspoken intercourse between mother and infant it is mysterious, but the mother understands it, the baby comprehends it. The naturalist comprehends his unspoken intercourse with nature, but he finds difficulty in explaining it to a fellow being who shows no interest, and who seems to feel no sympathy with the ground and its herbage, with the firmament and the birds which fly beneath its azure. The lover of nature is too often uncom-

municative, except in the presence of another nature lover, when silence often becomes more emphatic and speaks louder than much speech. A botanist may hold in his extended hand a minute flower, and without a spoken word, the eyes of his botanical friend will meet his, a smile will illumine each countenance, and their two souls have met, have seen each other, have greeted each other and are happy. It cannot be explained unless you already understand, and then you will need no explanation.

Nature study is not a subject to be learned from a human teacher. No matter how much you study books and are told by a teacher, you will not learn until you go into the woods actually to observe and to become so interested that you are carried on almost unconsciously from one thing to another.

There is a strong tendency to move to the city. The attraction is chiefly financial. It is time that we set for ourselves other ideals than money, which at the best is not an end but only a means. People are beginning to realize that the more money there is, the less it will do. Mr. John Rockefeller has bought everything that money can buy and given away millions but he has said, in a confidential moment, that the greatest pleasure he has is to go into the woods and bring himself in touch with commonplace nature that no amount of money can buy. It is time for us to set up an ideal other than money.

At first one must devote time to quiet meditation and observation in secluded places. Whenever the student is out of doors he must be aware of nature. Gradually he forms the habit of leaving cares, work and self-consciousness behind him. With an open mind he goes out under the sky, across the country or along the streams. He is alert to observe and ready to receive the truth that nature has to impart. He becomes aware of the deepening of his thoughts as well as of the increase of knowledge, for the truths that carry conviction and work lasting changes become clear in solitude. The person who is interested in rocks,

plants, animals and fields should be able to develop himself as well as his land, and to make a comfortable living from that land. The mind that is sympathetic with nature does not need the city for entertainment.

Nature will be a constant friend, instructor and inspirer if you will allow her to be so. The elements are always before us but the task is to see them clearly and to understand and use their inexhaustible resourcefulness. To be unable to read the open pages of the world around him should be as great a reproach to any man as to be unable to read the pages of a book before him.

The professional naturalist, it is true, may be said to live closest to nature for he spends most of his time in studying and experimenting with the wonderful, intricate, fascinating ways of nature. He delves so deeply and studies her mysteries so intently that finally he possesses much of the resourcefulness. Nature becomes not only an intimate friend to him but a constant source of surprise and delight. He makes exact and arduous studies of natural phenomena, one clue always leading to another and perhaps a greater. There is no end. Nature never says, "Here we stop," but always, "A little further and I will show you something more beautiful, more interesting than all that you have hitherto seen. Come, and let me lead you."

The poet receives much of his inspiration as well as his material from nature. Many of his best poems have been written in a quiet spot with nature for his inspirer; his imagination plays freely and he tells in a beautiful yet symbolic way what he sees. His surroundings inspire the artist and furnish him with material. The knowledge and inspiration needed in every form of art cannot be obtained from man. It is the special and distinctive contribution of nature. Is the nature lover an exception to the artist and the poet? Although he may never create a masterpiece, never make even one discovery, never write one essay, is the nature lover an exception? I tell you, Nay.

And the musician? Now, for a single moment think about him. Have you ever heard Beethoven's "Moonlight Sonata?" Have you ever heard of the circumstances in which Beethoven improvised that magnificent thing?

Forestry is that branch of nature study most recently brought before the public. When the instruction was first started in the colleges it was thought that it could differ but little from that required for horticulture and botany. However, the character of such teaching has been changed during the last few years and at present opportunity for education in professional forestry is not wanting in the United States, where there is a great field ready for the work.

The trees, especially in the United States, have been felled to such an extent that it has been feared that the result would soon be serious. Perhaps with the assistance of the foresters, new plots may be set out to replace the old ones and still others to supply the great demands of the people.

As Hamilton Mabie says these are great and real resources but they are, in a sense, strange to say, the resources of only a limited number of people. But when we stop to consider, every business can be traced back to nature and why? In the beginning, nature was the only inspirer, teacher and source of material and from her through man everything has developed.

The more closely we study man's relation to nature the more intimate that relation is seen to be and the more distinct becomes the fact that nature not only educates him in the arts and sciences but also furnishes him with illustrations of their inward life by analogy and symbol.

The influence of nature even appears in our language—for the words which are borrowed from natural phenomena or processes are numberless. The wolf is everywhere the synonym for hunger, the fox for cunning, the ox for patience, the eagle for self-reliance; the snow is always the symbol of purity, the sky of vastness, the sea of restlessness; the mountain of solidity; light

and darkness of good and evil. These figures are so generally and so constantly used that they form an element in most languages and the more we study them the more clearly do we perceive that nature has furnished man with a complete commentary on himself and that language is the registry of this intimacy.

Our education does not stop with the training of the senses and the awakening of the imagination. It may penetrate our moral being and bear the fruit of character, yet this is not always true for many persons in close touch with nature are perhaps open to criticism. This means only that they have studied nature in the wrong way—that they have not had the right ideals and thoughts. For every serious contact with nature leaves its impress in character and the moral nature long preserves the record of the educational process. In the end we will receive a great moral return for our work if it is carefully guided by nature.

When we try to imagine what the relation between nature and man has been and how much each of us owes to it, we should feel not only a sense of awe and wonder but of intimacy and tenderness. Through many forgotten channels our minds have been nourished and expanded by a ministry which, beginning with the first man, is still untiring. This ministry has still its special and peculiar teaching for every member of the human race. He has only to show himself willing to receive, and nature will lay open her exhaustless treasures for his pleasure and endless benefit.

The education imparted by contact with nature is so inclusive, so deep and so vital that it seems to exist for man's development.

When a new country is being settled the people must give their entire attention to the ways and means of life. They must fell the trees, build houses, raise crops and give all their attention to the material affairs of life. Their whole nature study is a matter of caring for the physical man. But when the work becomes more fruitful there is more leisure and they have a little

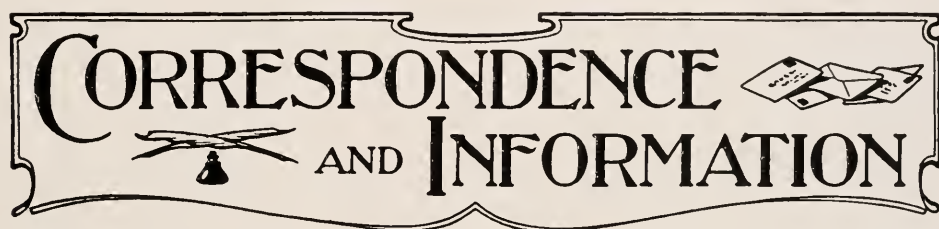
time to give to the aesthetics of nature study.

England is an old country, and England is far ahead of us in the matter of nature study. There many people study nature in its recreational phases. In this country the first to give any attention to nature as a mental and spiritual stimulus was Henry David Thoreau of Concord, Massachusetts,—more than half a century ago. About fifteen years ago through the influence of Professor Jackman of the Chicago Normal School, nature study first came into use as a pedagogical term. Only about twenty-five years ago a depart-

ment of nature study for boys and girls was for the first time established in a magazine and during the few past years many books on nature have been published and a wealth of magazines has arisen. The Agassiz Association is the pioneer and from that have spread various imitations and workers.

I have but briefly referred to the duration, the intimacy and the resourcefulness of the relations between nature and men. These relations are not only the oldest recorded facts in the history of the race but they are also cumulative in their influence and prophetic in their character.

CORRESPONDENCE AND INFORMATION



Encouraging Words from a University Professor.

The University of Nebraska,
Department of Botany,
Lincoln, Nebraska, U. S. A.
March 12, 1908.

To the Editor:

I have been so pleased with *THE GUIDE TO NATURE* that I cannot any longer refrain from writing to tell you what I think of it. It is good all the way through. But I am especially pleased with your editorial article on the "Desecration of Nature." That is admirably put, and in just the right words and right spirit.

Now do you know what I am going to do? Every little while I am called upon to tell the young people who are teaching science in the Nebraska schools what to read. Many of them have a feeling that they should be taking some magazine which will help them to keep somewhat in touch with nature. I have been waiting for a long time for something that I could heartily and unreservedly commend to these young people. They are not scientists (see that word! I hate it, and yet I am obliged to use it), but they

are young people engaged in teaching the rudiments of science. They know very little about nature yet, for they are young and have in most cases just emerged from a few years of higher schooling, and yet they would like to be able to give to their pupils the right notions and the right point of view. *THE GUIDE TO NATURE* meets better their demands than anything that I have yet seen. I think I told you once some years ago that the thing that helped me most when I was a beginner in this work was the "American Naturalist," under its old, early management along in the 70's. Barring the fact that nowadays we are able to make use of reproductions of photographs, there is much similarity between *THE GUIDE TO NATURE* as you are now managing it, and the "American Naturalist" in its earliest years. In its later years it has become so scientific and so technical that no one but a specialist can get anything out of it that is helpful to him. I am very sorry that it has undergone this change. No doubt I had something to do with bringing about the change myself during the period (nearly twenty years) in which I was one of the editors. But all the same

I have regretted the fact that it is no longer a journal that can be recommended to the teachers as a help unless they are already specialists.

Now I am writing these words to urge you to hold your magazine to just what you have developed it into now. *Keep it there*, and do not swerve it off into the "practical" on the one hand, nor to the "technical" on the other. You observe that I do not object to its being scientific; it must be, but it can be scientific and yet at the same time non-technical. I congratulate you upon having attained what I consider to be practically the ideal in the making of a magazine for the ordinary teacher.

Very truly yours,
CHARLES E. BESSEY.

[FROM A LATER LETTER.]

February 21, 1911.

I am glad to have yours of recent date and glad to be able to assure you that since I wrote the letter which you enclosed, I feel that *THE GUIDE TO NATURE* has improved very considerably. I have taken much pleasure in recommending it to teachers, especially those who are engaged in what they term "Nature Study," but what I call a very simple presentation of science. You are doing a great service to the cause of science in this country by making it possible for young people to get a good foundation. If I ever get time I want to write an article in which I will elaborate my ideas as to the oneness of Nature Study so called, and science. Some scientific men denounce Nature Study, and some Nature Study advocates deny that Nature Study is science. Both are wrong, for Nature Study of the right kind helps science proper, and Nature Study of the right kind is good elementary science.

Wishing you great success, I am

Very truly yours,
CHARLES E. BESSEY.

Squirrel Eat Fungi.

New York City.

To the Editor:

The letter in the March issue of *THE GUIDE TO NATURE* entitled "Chipmunks and Mushrooms" is very interesting, particularly that part of it which deals with the eating of toadstools by squirrels. Not only do the squirrels

eat the fleshy fungi, but after a severe snowstorm during the winter of 1909-1910, I found one of them eating a tough, leathery fungus, belonging to the genus *Stereum*, which was growing on a rustic fence rail.

In regard to the eating of the fleshy forms there is a note in the February, 1910, number of "Mycologia" (also in the "Journal of the New York Botanical Garden" for the same month) that may be of interest. It makes the following statement: "During the summer, squirrels are very fond of species of *Russula*, and other fleshy forms appearing on the forest floor, and red squirrels in Alaska have been known to carry fleshy forms into the trees to preserve them for future use. . . ."

Sincerely yours,
EDWIN W. HUMPHREYS.

Railroad Cars Sank.

Pittsburg, Pennsylvania.

To the Editor:

In April, 1908, I took some pictures of a difficult piece of railroad construction work in the northern part of Pennsylvania. The Bessemer Railroad undertook to build a "cut-off" through the center of Pymatuning Swamp. All went well until a certain point was reached about halfway through the swamp. Here, on account of the yielding nature of the ground, it was found necessary to drive sixty-foot piles, and build a corduroy foundation. Upon this the ties and rails were laid, and the work of filling was started. After several train loads of earth had been dumped on each side, trouble began. One evening several loaded cars were run out upon the tracks and left there for the night. Next morning, when the workmen returned they found only a pool of brackish water. Everything had disappeared, and several tall pines that grew beside the roadbed had tipped inward until their tops nearly touched. The railroad officials found it necessary to set to work again to fill the sink hole, a task that took nearly a year to complete. Thousands of carloads of rock and gravel were dumped into the hole before a firm foundation was established.



WHERE THE CARS SANK IN A SWAMP.

At the time these pictures were taken the work had progressed until only a space five hundred or six hundred feet in width remained to be filled. The spreading of the mass below caused the crust, which was several feet thick, to rise above the common level of the swamp thus exposing the edge and revealing the nature of the soil which was composed almost wholly of vegetable matter, and contained trees several inches in thickness, but so completely decomposed as to crumble to pieces when handled. I secured several

specimens from various depths below the surface.

There is little doubt that Pymatuning Swamp was once an extensive body of water, which has become filled with silt and the surface grown over, for it is perfectly level. Trees are numerous around its edges, but near the center these give way to shrubs, grasses, reeds and rushes. A sluggish stream winds through it and forms the head waters of the Big Shenango, a branch of the Beaver River.

MILO H. MILLER.

Nature for Her Own Sake.

These men of the old school were lovers of nature. They knew nature as a whole, rather than as a fragment or a succession of fragments. They were not made in Germany or anywhere else and their work was done because they loved it, because the impulse within would not let them do otherwise than work, and their training, partly their own, partly responsible to their source of inspiration, was made to fit their own purposes. If these men went to Germany as many of them did, it was for inspiration, not for direction; not to sit through lectures, not to dig in some far-off corner of knowledge, not to stand through a doctor's examination in a dress coat with a major and two minors, not to be encouraged *magna cum laude* to un-

dertake a scientific career. The career was fixed by heredity and early environment. Nothing could head them off and they took orders from no one as to what they should, or what they should not reach as conclusions. They did not work for a career—many of them found none—but for the love of the work. They were filled with a rampant, exuberant individuality which took them wherever they pleased to go. They followed no set fashions in biology. Such methods as they had were their own, wrought out by their own strength. They were dependent on neither libraries nor equipment though they struggled for both. Not facilities for work, but endeavor to work, if need be without facilities, gave them strength and their strength was the strength of ten.—*David Starr Jordan in Science.*



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

AN ASTONISHING OBJECTION.

An advance copy of this Report was sent to the owner of Arcadia. The items so strongly objected to as to result in the notice to vacate the premises are underscored.

The Annual Financial Report of the AA.

The following is the summary of the cash account of The Agassiz Association ending Saturday, April 15, 1911:

Cash Received.

From THE GUIDE TO NATURE	\$5899.41
From Members' Dues, Contributions, etc.	\$1401.40
From Contributions in response to "Special Emergency Bulletin" of February 1st, 1911	222.40 1623.80
From Edward F. Bigelow and family	472.38

Total\$7995.59

Cash Paid.

For THE GUIDE TO NATURE	\$7091.63
For General Expenses	903.96

Total\$7995.59

April 17, 1911.

The above is a correct summary of cash received and paid from December 15, 1908, to April 15, 1911, inclusive.

(Signed) EDWARD F. BIGELOW

Subscribed and sworn to before me this 26th day of April, 1911.

(Signed) HARRY C. FROST,
Notary Public.

This is to certify that I have examined the details of which the above is a summary, and find all to be correct, and that there are no entries for service of Dr. Edward F. Bigelow or of any member of his family.

(Signed) CLINTON R. FISHER.

Subscribed and sworn to before me this 26th day of April, 1911.

(Signed) GEO. S. WILSON,
Notary Public.

ANALYSIS AND PROGRESS OF THE CASH ACCOUNT

The above is a summary for the entire period from December 15th, 1908 to April 15th, 1911. Within that time, the books were closed and inspected, and reports made as follows:

April 8th, 1910. Annual Report to all Members and friends. January 1st, 1911. Special Report by Official, Chartered Accountant from New York City to one Member. February 1st, 1911. Special Emergency Bulletin to the Members and Friends of the AA. April 15, 1911. Annual Report as above.

The following analysis of the account shows the progress for each period and the conditions at the end of each:

Cash Received.

From THE GUIDE TO NATURE to April 8, 1910	\$2111.81
From THE GUIDE TO NATURE to January 1, 1911	2848.32
From THE GUIDE TO NATURE to February 1, 1911	277.98
From THE GUIDE TO NATURE to April 15, 1911	661.30
	<hr/> \$5899.41
From Members' Dues, Cont., etc. to April 8, 1910	\$ 882.30
From Members' Dues, Cont., etc. to January 1, 1911 ..	379.35
From Mem'ers' Dues, Cont., etc. to February 1, 1911 .	35.85
From Members' Dues, Cont., etc. to April 15, 1911 ...	326.30
	<hr/> 1623.80
From Edward F. Bigelow and family	472.38
Total	<hr/> \$7995.59

Cash Paid.

For THE GUIDE TO NATURE to April 8, 1910	\$3037.33	
For THE GUIDE TO NATURE to January 1, 1911	2661.95	
For THE GUIDE TO NATURE to February 1, 1911	296.84	
For THE GUIDE TO NATURE to April 15, 1911	1095.51	
	<hr/>	\$7091.63
For General Expenses to April 8, 1910	\$ 623.31	
For General Expenses to January 1, 1911	156.34	
For General Expenses to February 1, 1911	0.00	
For General Expenses to April 15, 1911	124.31	
	<hr/>	903.96
Total		\$7995.59

THE SPECIAL EMERGENCY BULLETIN.

The following is the summary of the Special Emergency Bulletin of February 1st, 1911:

Cash Received.

From THE GUIDE TO NATURE	\$5,238.11
From Members' Dues, Contributions, etc.	1,297.50
From Edward F. Bigelow and family	240.16
	<hr/>
	\$6,775.77

Cash Paid.

For THE GUIDE TO NATURE	\$5,996.12
For General Expenses	779.65
	<hr/>
	\$6,775.77

Bills to be paid \$ 474.14

As will be seen by the Annual Report, the responses to that Bulletin aggregated \$222.40. The contributions ranged from 30c to \$5.00 and \$10.00, and three at \$25.00 and two at \$50.00. The entire list will be furnished any contributor who may desire to see it.

PERSONAL

It will be noted that these contributions have been used wholly to pay bills, and not the loan by Edward F. Bigelow and family. This loan on February 1, 1911, was a total of \$240.16. Now (April 15, 1911) it is \$472.38—an *increase* of \$232.22. It is sufficient to state that this loan is made out of necessity in positive knowledge of the tremendous importance of the work. It must not only go on but it must not deteriorate. The bills must be paid, and when there has been no money in the treasury, and not sufficient responses from members and friends, your president and his family have taken the burden of advancing the money with which to pay.

We gladly give time and some money, but must appeal to our members and friends

to prevent so excessive burden coming upon the Home Office management.

For thirty- six years the incalculable benefits and value of the work of the AA have have been generally recognized and admitted. No other organization, educational or philanthropic, with so extended work has been compelled to do its work with so little financial support. An experience of over one third of a century proves that a dollar invested in the AA has produced more results than in any other organization. These are facts that have been proven every year.

EDWARD F. BIGELOW,
President of The AA.

The President's Annual Report to the Trustees.

Arcadia, Sound Beach, Conn.
May 6, 1911.

To the Trustees of The Agassiz Association.

It affords me pleasure to report that the work of the AA during this past year has been the most effective, extensive and prosperous of any year under the present management. A very large proportion of our members has been active. Several Chapters long dormant have sprung into renewed life and activity. The progress has been encouraging though much of it has been of a character not adapted to public exploitation.

More original work has been done in the AA laboratory than in any previous year. Many important investigations are now in progress. During the year we have had several special students, and more could be enrolled if working room and boarding accommodations could be provided.

Many contributions of specimens could not be accepted for lack of museum room. All space at our disposal has been utilized in active work. Increased facilities for micro-research and botanical investigations are badly needed. The demands along this line have been far beyond our ability to supply.

"THE GUIDE TO NATURE" has been increased in size by the addition of sixteen pages and several illustrations. The circulation is now 4,000 copies monthly. There are fair prospects of attaining an edition of 5,000 copies within two months.

The financial report is submitted here-

with. This shows an encouraging increase of business.

Of the membership reported by the Special Emergency Bulletin of February 1st the following statement was then made:

"NEW MEMBERS Enrolled: educational, with payment of dues 532; educational only, 538. Total, 1070

"In addition there are our older members, and many hundreds unenrolled, affiliated members; also many co-workers whose interests center in *THE GUIDE TO NATURE*, and yet are not officially enrolled. I estimate that including all the above and our former members, we aid and influence more than 10,000 every month. The number benefitted by Arcadia, in other journalistic work for young folks, is probably more than ten times the above."

Since then we have enrolled 54 new members, thus making a total enrollment of "regular," recent, active members of 1124. This number does not include the "older members" nor those merely "affiliated."

Among these most recent additions to our membership, I take especial pleasure in reporting to you Mr. R. L. Agassiz, grandson of the famous scientist whose name we bear. We now have enrolled four members of the Agassiz family.

But encouraging as all this is, I feel that we are but at the beginning of greater achievements. Even more than what it has done, do the reasonable possibilities make me enthusiastic and devoted to our beloved Association. I long to see the New Era of greater achievements. It is twenty-one years this spring since I began active work in the AA. My experience has "become of age." I am ready now for the full grown adult work, and to that end I solicit the continued support and cooperation of you, my fellow Trustees, and of our membership of all ages in all places. Our work is world-wide, never ending, and limited only by its facilities and resources.

Cordially and enthusiastically yours,

EDWARD F. BIGELOW,
President.

A Special Calamity Report.

To the Trustees, Members and Friends of the AA:

It is my painful duty to inform you that The Agassiz Association is requested to vacate its present premises, known as Arcadia and held for two years by a gift lease from one of our members, whose name is not published, according to his request made at the time of the offer. This offer (see letter of November 25, 1908, following) was to supply better "facilities for the conduct of your work," and the condition for even a better and permanent home, "If . . . your beneficent work grows and spreads itself."

The adverse judgment on the experiment is most astonishingly based on the fact that your president has worked without "adequate compensation" to himself and family in addition to the fact that the AA is in debt to him for cash.

That there be no misunderstanding in the matter, and in justice to the many contributors to the equipment and work of Arcadia, I feel it my duty to publish extracts from the correspondence with our kind benefactor, omitting as much as possible the parts that are wholly personal.

THE OFFER.

November 25, 1908. "As the Scotch say, 'Tis a far cry to Loch Awe,' and so also the first of April next is some distance off, but things in Sound Beach are already 'humming.' The land is being drained to make it sweet and wholesome for the foundation of the little hive of industry I am going to erect, and my architect, not yours, is already employed to assist me with information and advice, which I do not myself possess, but I do know my purposes, and am going to carry them out in my own way. The end of it, or the beginning, according as you phrase it, will be that on the first of April, 1909, or a week or two before, I shall offer you and your family for two years, rent free, except as to the dollar a year I shall charge you because of the legal consideration, such a home and conveniences as you never yet, in your life, or in theirs, have oc-

cupied, and such facilities for the conduct of your work as transcend fifty or a hundred times the limited conditions under which you now labor. If you are spared for two years, and your beneficent works grows and spreads itself as I firmly believe it will, wherever the English tongue is spoken or read, and doubtless in places where it is translated into other languages, I shall, if God spares me in health and strength, and prosperity, found the AA Home and your own home upon fire-proof foundation. For the rest, you must trust me, and leave me a free hand to work out my own conception of what you need to conduct your work under the best possible conditions. To that extent I am bound, while you are absolutely free. I shall consult you from time to time, because I need instruction, but in the main I must press on to the execution of a purpose which has been slowly growing in my mind since I first had the pleasure of meeting you, and if I leave in your hands the veto power, surely I have done you or yours, no injury."

THE REQUEST TO VACATE.

May 3, 1911, from abroad—received May 16, 1911. "Your favor of the 24th ulto. reaches me here to-day, and I note its enclosures.

"From my point of view, the experiment of two years has failed, and through no fault of yours or mine. I had hoped the public would generally respond to the claims of the AA, to the end that the good work might progress with adequate compensation to what you term the Bigelow family.

"On the contrary, it appears from the advance copy of your Annual Report that not only are you unremunerated but the AA is in debt to you for cash. This is a situation which I hereby terminate, so far as my authority goes. The Association seems to have practically no assets and can conduct its mission from any post office address.

"I have decided to put the property known as Arcadia, to other uses, but I desire you to vacate it at the convenience of yourself and your family.

"You have made a brave fight, and I

salute you in honor, but the public has failed you support.

"With kindest regards to you all, I remain,

"P. S. I send this through Mr.—who has full authority to represent me."

EDWARD F. BIGELOW'S REPLY TO THE ABOVE LETTER.

May 19, 1911. "Your letter brings joy in the personal kindness and praise, and sorrow in the calamity. It is evident that my faithful work has pleased you, and the limited extent of the patronage and aid given Arcadia by the public has disappointed you. In the beginning I supposed you were working wholly for the Cause and not so much for me, though I was aware of your personal friendship and fully reciprocated it. Perhaps your misunderstandings were due to the fact that, in our few weeks' acquaintance previous to your original proposition of Arcadia, I did not tell you more fully of the self-sacrificing spirit of the AA. I must follow the example of my illustrious predecessor in his thirty-three years' work without salary, in addition to the contribution of some money. He earned a living for himself and family as a librarian. I have done so by school and editorial work. Our spare time has been devoted to the Agassiz Association without financial income, and the custom for thirty-six years should not now be changed. Your original offer (letter of November 25th, 1908) and the partial explanation of your plans at my home at about that time, with the figurative reference to the 'light on the corner,' naturally led me to think that the whole test of success was, 'If . . . your beneficent work grows and spreads itself.' The first information I ever had that your test of the success of your plan would be in the establishment of a good business for me was in your letter of July 26th, 1909, from Jefferson, New Hampshire, received while we were getting settled in Arcadia. In that letter you expressed what was to me an entirely new point of view:

"My hope was, and I do not yet

abandon it, that membership of the Agassiz Association in its various degrees would gradually increase: that subscriptions to *THE GUIDE TO NATURE* would grow apace, and that, well within the period I had fixed for the experiment, the work would be on a sound business basis, suitably remunerating you and your staff for your labors.

"The work should always be on 'a sound business basis'—that is, systematic and efficient. In that we agree. But I and members of my family will not accept in salary a cent of money given to a philanthropic cause. We desire to devote as much as possible of our efforts to a naturalist's altruistic work, and have selected the AA as our field. Perhaps, in the ultimate analysis, we, like the child dropping a penny in the tin cup of a beggar, are selfish—perhaps the satisfaction to the giver is always of more value than the thing given. But that is another and psychological question. Plainly then the point on which we differ is in your desire that our altruistic work become a bread earning business. You state in no uncertain words, 'Not only are you unremunerated but the AA is in debt to you for cash.' . . . (Therefore) 'I have decided to put the property, known as Arcadia, to other uses.'

"It is a strange anomaly that altruism, self-sacrifice and devotion to a Cause receive such a penalty! Astonishing as it is, your kindly feeling for me has prevented your giving full credit to the AA, its members and supporters. I fully share with you the regret that the income has not been greater, and it is surprising that the manifested interest is not universal. But I beg of you not to give a blow to the faithful ones because of the 'sin of omission' of those who do not understand and therefore do not appreciate. It is true that in some cases the project was misunderstood, and did not have in the beginning the general hearty support it merited. But the lack of support and co-operation has not been so extensive as your letter shows you estimate it.

"Please take into consideration that

many of our members are boys and girls who can pay but little or nothing. Some who most need the aid are necessarily enrolled free. The Report shows that the total received in membership dues and contributions ranging from 5c to \$150 per year was \$1,623.80, in addition to the magazine income of \$5,899.41. Many of our business patrons not only value our magazine as an advertising medium but are personally appreciative of the AA's ideals. The excess of expenses paid by me and members of my family was the result of efforts to build up the AA the utmost possible. We have gladly added our mite to your painstaking plans and extensive expenditures. The deficit of \$472.38, partly due to an increase of business demanding more capital, is more than offset by the \$676.64 expended on Arcadia, which should be regarded as an asset for the AA work. If the business had not been pushed so energetically, and a few of our patrons had been more prompt in settlement of accounts, 'Cash Received' would have excelled 'Cash Paid'. You recognized the value of this energetic pushing and on October 7th, 1910, wrote encouragingly, "'THE GUIDE TO NATURE is good. Keep it up.' That has been our spirit all along, but it takes several dollars as well as much hard work to put it into practice. We did all we could. Suppose we had ceased co-operation on the plea that you did too much and others not enough!

"Thousands have been appreciative. Many have given time and money to the extent of their ability. I have positive knowledge that some of the contributions, even here in Sound Beach, have been at self-sacrifice. Gradually the list of supporters has increased. Do not discourage nor be discouraged. It is indeed a strange fault you find that I have done too much—have worked too faithfully. Your discontinuing Arcadia only adds to the very thing to which you object. Just so much of the load as you abandon, I and others must take up. The work is far too important to be dropped so long as I have health and

strength. It should go on and continue to increase.

"Your Arcadia has been worth while. Even for the two years the value to humanity has been more than its cost to you and me."

EXPLANATION

The "favor of the 24th ulto." referred to in letter of May 3rd was an advance copy of the Annual Report printed herewith. The objections resulting in the order to vacate are two: (1) the clause in the auditor's statement, "There are no entries for services of Dr. Edward F. Bigelow or of any member of his family;" (2) the item in the Report, "From Edward F. Bigelow and family, \$472.38."

These objections are undoubtedly an outburst of resentment on account of personal friendship, but the results are none the less disastrous. The amount advanced does not represent a loss but lack of time and the larger capital required in the increasing business.

The "No entries for services" is in happy harmony with the unbroken custom of the executive officer of the AA for thirty-six years. It has been, is and will be a labor of love. For only the expenses of the work and the Cause, but not for salary, has the president sought and received public aid.

The buildings of Arcadia have been equipped in furnishings and specimens by direct contributions from Boston to Sacramento. On account of lack of room, we have recently refused offers of gifts of cabinets of specimens. The visitors have been many; the correspondence is enormous. Much of the experimental and original scientific work has been done in cramped and incomplete quarters. Upon Arcadia the AA has expended \$676.54 in addition to the generous donations of the owner.

FOR A NEW ARCADIA

The time has come for The Agassiz Association to have its own building on its own land—its own Home, even if but a small one, under the sole control of the Board of Trustees. To that end we ask you to give, give what

you can from a cent to thousands of dollars.

Let us have at least a \$10,000 building, and we want it just as soon as possible. That means please send your contributions now. The AA shall go on; your president will work with more devotion than ever to the Cause.

Yours faithfully and hopefully,

EDWARD F. BIGELOW

Contributions for New Arcadia.

GENERAL.

Mr. Zenas Crane, Dalton, Mass.	\$100.00
Dr. Merwin-Marie Snell, Riverside, Conn.	10.00
Miss Amelia H. Benjamin, Spring Valley, N. Y.	1.00
Mr. Clement B. Davis, New York City.	5.00
Mr. Silas H. Berry, Brooklyn, N. Y.	3.50
Mr. Oscar Sperl, Cromwell, Conn.	1.00
Dr. and Mrs. Charles E. H. Phillips, Glenbrook, Conn.	15.00
G. B. Affleck, A. B., International Y. M. C. A. Training School, Springfield, Mass.	5.00
Professor Edwin Tenney Brewster, Andover, Mass.	5.00
Mr. William L. Marks, New York City	100.00
Professor Charles E. Bessey, Lincoln, Nebraska	3.00
Dr. Robert T. Morris, New York City	10.00
Mr. R. L. Agassiz, Boston, Mass.	25.00
Mr. John C. Uhrlaub, Glenbrook, Conn.	10.00
Mr. R. E. Vandruff, Evansville, Indiana.	3.00
Mr. Jefferson Butler, Detroit, Mich.	5.00
Miss Caroline Hermione Rogers, Thompsonville, Mich.	1.00
Miss Laura Boorman, Palmer, Mass.	10.00

Mrs. Robert Gysel, Chicago, Illinois	1.00
Johnstown Chapter, Johnstown, Pennsylvania	5.00
Mr. Arthur Ochitman and brother, Coscob, Connecticut.	1.00
Mr. M. Tandy, Dallas City, Illinois.	5.00
Miss Harriet E. Wilson, Stormstown, Pennsylvania.	1.00
Mount Bluff Chapter, Island Pond, Vermont.	2.50

STAMFORD, CONN.

Mr. Paul Griswold Howes ...\$	50.00
Mrs. Townsend Howes	50.00
Mr. Albert Crane	25.00
Mr. Walter E. Houghton	10.00
F. Schavoir, M.D.	25.00
Mr. Wm. N. Travis	5.00
Mr. W. L. Baldwin	5.00
Mrs. J. J. Alexandre	100.00
Mr. Wm. H. Holly	5.00
Mr. Fitch A. Hoyt	100.00
Dr. Amos J. Givens	100.00
Mr. George H. Thamer	5.00
Mr. Walter Ferguson	10.00
Miss Helen W. Smith	25.00
Mrs. Belden B. Brown	50.00
Mr. Belden B. Brown	50.00
Mr. Warren H. Taylor	25.00
Mrs. Walter M. Smith	1.00
Judge C. D. Lockwood	10.00
Mr. E. L. Scofield	10.00

SOUND BEACH, CONN.

Mrs. J. Edgar Willing	\$ 5.00
Miss Clara Peterson	1.00
Mrs. W. W. Santy	1.00
Miss Belle Ferris	1.00
Mr. Nelson Palmer	1.00
Mr. Geo. F. Gilmore	1.00
Mr. Wells McMaster	3.00
Mr. T. W. Jarvis25
Miss Clara Morgan	1.00
Mr. James W. Brice	5.00
Mr. J. N. Conant	1.00
Mrs. M. B. Foster	10.00
Mr. B. F. Palmer	25.00
Mr. Edwin Binney, "If the home be located in Sound Beach."	100.00

Total\$1,144.25

Encouraging Words From Members and Friends.

MRS. TOWNSEND HOWES, STAMFORD, CONNECTICUT.

We are all very much pleased at the interest shown in the future Arcadia, and I am sure you will be able to have your own buildings and carry on the good work. I am glad to add by name to the list.

G. B. AFFLECK, A. B., INTERNATIONAL YOUNG MEN'S CHRISTIAN ASSOCIATION TRAINING SCHOOL, SPRINGFIELD, MASSACHUSETTS.

I wish to assure you of my sincere sympathy in the apparently serious setback of your work. I wish I were in a position to cooperate substantially in aiding you. As it is I have not anything worth while, but will send you what I can.

With regard to the place which Arcadia occupied and of the service which it would increasingly render, I have no hesitancy in saying that I feel that it was of very great service especially to all amateur scientists. The facilities which you there had were adequate, and the plan which you had evolved whereby any serious-minded student might avail himself of them is exactly the thing which is needed to encourage more, especially of our young people, to a wholesome and sane interest in nature. I believe that by no means the least, and in my opinion the strongest feature of your organization is its point of view whereby the natural relationship between the Creator and creation is not neglected, and where pure science is relegated to the background and science for pleasure and profit is emphasized.

GEORGE S. GODARD, LIBRARIAN STATE LIBRARY, HARTFORD, CONNECTICUT.

I was sorry to learn of the loss of your laboratory and working facilities. I trust, however, this interruption will be brief in order that the many friends of THE GUIDE TO NATURE may soon be receiving again the publication as issued, for our state needs this publication.

PROFESSOR CHARLES E. BESSEY, DEPARTMENT OF BOTANY, THE UNIVERSITY OF NEBRASKA, LINCOLN, NEBRASKA.

I am very sorry indeed that you have to move your headquarters and yet I am sure that you will come out all right. The cause which you represent has such widespread interest and is so important that I am sure you will be able to find new quarters within a reasonable time.

I wish I could send you more than the enclosed money order but this little contribution may be regarded as a species of "widow's mite" and I trust it will do a little good.

PROFESSOR EDWIN TENNY BREWSTER, ANDOVER, MASSACHUSETTS.

There really doesn't seem to be much to be said, does there? So I enclose my little contribution. Let me in addition express my hearty appreciation of your work in the past, and my confidence in its future.

PROFESSOR GEORGE W. CARVER, DIRECTOR DEPARTMENT RESEARCH, EXPERIMENTAL STATION AND CONSULTING CHEMIST, TUSKEGEE NORMAL AND INDUSTRIAL INSTITUTE, TUSKEGEE INSTITUTE, ALABAMA.

I regret exceedingly to see such a calamity coming upon such a noble work. I have also looked over the financial condition, and under the circumstances do not really see how it could be better. It seems to me that it makes a very excellent showing. Now, I will do whatever it is possible for me to do in this matter. I fully know how to sympathize with you, as I have just returned from Washington, D. C., where I went upon business for a few days, and upon my return found that everything my experiment station possessed in the way of tools, fertilizers, supplies, etc., had been destroyed by fire. Only one hoe was saved; all my fine seed was destroyed, seed that I have been working on for thirteen years, and which was enough to perpetuate the species. So I have to start over again myself, and hope and believe that something can and will be done. I think, however, that something can be done in both cases.

A. E. WINSHIP, EDITOR "JOURNAL OF EDUCATION," BOSTON, MASSACHUSETTS.

It is all unintelligible to me, but you are surely in trouble,—at least you have cause to be seriously discouraged. I certainly think that some men of abundant means will come to your relief.

WILLARD N. CLUTE, EDITOR "THE FERN BULLETIN" AND "THE AMERICAN BOTANIST," JOLIET, ILLINOIS.

It strikes me that you have received a rather rough deal in the matter of Arcadia and I extend my sympathy. Later I shall have something to say on the subject in "The American Botanist." Unfortunately your notice was received just after the current number of the magazine had gone to press.

I dare say you have seen the notice that Carnegie has established a corporation for the aid of worthy enterprises such as yours. Why not write to him or his agents. Seems to me he ought to help you push things. However, there is no use trying to interest people in nature. Some are born with this interest and you can cultivate it, but most folks consider any one who monkeys with plants as little better than a fool—a sort of "Miss Nancy" too lacking in manly qualities to be worth considering. I have about decided to quit a subject that is so universally regarded as a diversion for the weak minded and get into some man's business like keeping a saloon, running a bucket shop or carrying on a pop-corn stand.

OLIVER THORNE MILLER, FAMOUS AUTHOR AND ORNITHOLOGIST, LOS ANGELES, CALIFORNIA.

I have read with surprise and deep sympathy the account of the calamity which has befallen you. It is certainly the most extraordinary performance on the part of a "friend," and it seems as if there must be some reason—not given—for the strange act. I will do all the "talking" I can for you, but I am not much of a talker at the best, and my approaching eightieth birthday is reason enough for general silence.

MR. WALTER J. BAUSMAN, NEW YORK CITY.

I was surprised to hear that you must shortly vacate your ideal institution. Certainly the report shows great modesty and generosity on your part and that of your family. Such is the usual case of new works and genius. Unfortunately those who have the most and the sincere sympathy are the ones who have not means to aid or give. Sad! Hope you will find some generous friend and have a still better plant and situation. Good luck to you, my dear man, and feel some solution will and must appear to answer your unselfish life.

MISS LAURA BOORMAN, PALMER, MASS.

You have my sympathy in this serious setback in your plans for the work of the Association. This misfortune will show who are the friends of this work, and I hope there may be many who will be able to help in establishing you in a new home adapted to your needs. I enclose a little to help along. You have my best wishes and appreciation of your work for the best interests of The Agassiz Association as far as I have become acquainted with it. I hope the outcome of this change may be to increase the ardor of the members of the Association and enlarge the field for work. I did not know anything about the land and buildings being supplied by Mr. J. K—— T——. However, the use of this place seems to have helped the work for the time being, and made it more widely known, and I hope its next home will be built on a firmer foundation.

MRS. ROBERT GYSEL, CHICAGO, ILLINOIS.

I cannot express the regret I feel on the sudden turn affairs have taken and deeply sympathize with you, but so far in human experience I can think of no person working out high ideals who has met with any great measure of appreciation or financial gain, until no longer caring for either, all such benefactors seem to have had springs of content within to sweeten the bitterness that comes from being misunderstood, else the heart would break.

DR. ROBERT T. MORRIS, NEW YORK CITY.

You ought to have larger sums than these little amounts that your friends give on short notice.

I would give you an endowment if the means were at my disposal for the purpose.

MR. JEFFERSON BUTLER, SECRETARY THE MICHIGAN STATE HUMANE ASSOCIATION, DETROIT, MICHIGAN.

I send check for \$5.00 as a contribution from the Michigan Audubon Society from a fund contributed by Mr. Henry Ford of this city to use as my judgment may dictate. I am convinced that THE GUIDE TO NATURE is doing good service in the country at large both in nature studies and in uplift work generally. I am very glad indeed to be of any assistance and regret I cannot make the contribution larger.

DR. R. W. SHUFELDT, WASHINGTON, D. C.

The marked copy you kindly sent me came to hand last evening. If Mr. T— is thoroughly conversant with the splendid record you have made for your enterprise at "Arcadia," and still insists upon placing in jeopardy the good you are doing all over this country in stimulating nature study, and the best ends of education,—all I can say is he ought to be ashamed of himself. He will certainly reverse his directions when he knows fully of the more than creditable work your institution has accomplished. We have few enough of such admirable enterprises on foot in this country, to have our millionaires stamp them out for us, even if they are the rightful owners of the property. He should have been proud to have given it to you outright.

Never mind, keep up the fight,—you will find you have friends in this little setback. You may be assured that I am with you.

DR. G. A. HINNEN, CHICAGO, ILLINOIS.

I was very sorry to hear of the misfortune to Arcadia, and think your unselfish work, devotion and financial aid should receive the highest recognition and praise from every member of the AA.

Report of Chapter No. 1035, Greenwich, Connecticut.

My dear Mr. Bigelow:

We have sent you our picture and will now tell you a little of what we have been doing as an Agassiz Chapter.

Every week one period of our school time is devoted to nature study which is planned for us by our teacher. Once in a while we have a business meeting at this time. Whenever we bring in spe-

of our schoolroom window and found that the first noticeable change of color was about March 1st. This was one of the things you suggested that we investigate.

Those who went to Sound Beach last week were sorry that you were not there but we enjoyed the trip and hope to go again some day.

Yours sincerely,

FRANCIS LAUNDERS, *Secretary.*



CHAPTER NO. 1035 OF GREENWICH.

cimens we identify and classify them if we can and make dated record in a book which we keep for that purpose. We have had a variety of things brought in; a muskrat's skull, minerals, birds eggs, a rhinoceros beetle, butterfly chrysalids and moth cocoons, flowers, specimens of different kinds of woods, leaves and shells.

A little while ago a *Polyphemus* moth came out of its cocoon in school time and we all watched it unfold its wings and develop. It began about 9.30 A. M., and by noon time it was full grown and lively and had laid dozens of eggs on the inside edges of its box when we thought it must need a rest so we "etherized" it for our collection.

We watched a willow tree in sight

A Member Desiring to Exchange and to Correspond With Others.

Rowe, Massachusetts.

To The AA:

Please publish as soon as possible, in *THE GUIDE TO NATURE*, a notice to the effect that I shall be glad to correspond with and exchange with Members or Chapters interested in mineralogy and botany. Also, if you see fit, you may mention that I will exchange photo view post cards. I hope that you will publish this in the May number if possible, because I do not wish to wait till the last of June to start in. Would it not be a good idea to write a short article, inviting Members and Chapters to send in their names to be published in such manner? I am sure that there are many nature lovers who live in

places where there are not enough people similarly inclined to form a Chapter, who would enjoy and be benefitted by such a plan. Also Chapters might employ a corresponding secretary whose duty it would be to look up such matters. Collections can thus be made very cheaply, because specimens rare in one country or state are abundant in others.

Very sincerely,
ERNEST E. STANFORD.

An Enthusiastic Student of Lepidoptera.

Mission San Jose, California.
Report of Corresponding Member 2144,
AA.

As I am still awaiting the arrival of my check list and boxes, I have not completed the arranging of my collection of butterflies and moths.

About the middle of February I saw the first butterflies of the season, and for a time was in doubt whether they were *Vanessa californica* or *Grapta satyrus*, as they were very shy. When I had captured a few, I found that both genera were represented. All the specimens secured were rather battered, so I concluded that these early flies had only recently come out of their hibernation.

A little later I saw a *Papilio rutulus*, but as I have not seen another, I believe that he must have been rather crowding the season. On March sixteenth, however, when I saw the first of the *Lycacnidae*, (*Lycacna piasus*.) I felt that spring was not far off, and that the season's collecting would soon begin.

Dull weather followed, but in spite of this, on March twenty-first, I found in warm spots along the road myriads of *Melitaea chalcodon larvae* on the California bee plant. I secured a colony of them, as I am much interested in the peculiar aberrations which so often appear among these common butterflies. I have one of these odd forms in my collection, but it is much rubbed and battered, and I wish to get some unspoiled specimens if possible.

A week later when the sun again began to struggle through the fog,

Euchloë sara appeared, followed closely by the ubiquitous cabbage butterfly, and a few monarchs arrived from the south. These flies had all been reported earlier by friends on the south slope of the hills and also in the Santa Clara Valley—but they had just reached us on the shadier north slope.

At last, on March twenty-ninth, after a few bright, hot days, I decided to go on my first collecting trip of the season and look for *Lycacnidae*. I secured only three flies, but was much elated, nevertheless, as one of them, *Lycacna saepiolus*, was new to me. The others were a pair of *Lycacna piasus*. Since then the fog has closed in again, putting an end to my collecting for a time.

On March thirty-first, a little *Melalopha* moth emerged from a cocoon which I had kept through the winter, and much to my surprise, the ground color of his wings is almost black instead of the soft gray of my other specimens of this moth. I am wondering whether this is the regular winter form or is due to my having kept the cocoon in a shadowy corner out of the direct sunlight.

PHOEBE LOWRIE.

A Rapidly Growing Chapter.

REPORT OF THE JOHNSTOWN, PENNSYLVANIA, CHAPTER.

The past year has seen our society advance wonderfully. The members have shown great enthusiasm and our work has been carried forward in trying to get young people to become interested in nature. Towards this end we have occupied the months since the beginning of school in studying the trees and birds of this vicinity. During September and October excursions were taken once a week, when the weather permitted; and, as soon as the weather becomes milder, the walks will be resumed.

Perhaps our greatest achievement during the year was the securing of Mr. J. S. Briggs, Horticultural Inspector and Demonstrator for the Division of Zoology, Department of Agriculture, to lecture in the High School auditorium on "Birds and Their Relation

to Agriculture." The lecture was attended by more than two hundred high school students. We feel that our efforts in securing Mr. Briggs were worth while.

Our collection of insects was greatly enriched by the addition of many specimens which were collected during the summer by some of our members. Our aquarium was also made more attractive and interesting by the addition of more water plants.

The officers of the Chapter are:

Miss Matilda Krebs, President; Julius Porias, Vice-President; Miss Emma Brubaker, Secretary; Miss Ora Pearl Giffin, Treasurer.

The members are:

Miss Emma Brubaker, John Cover, Miss Naomi Dixon, Miss Emily Pearl, Miss Ora Pearl Giffin, William Joder, Miss Helen Kleinschmidt, Robert Kleinschmidt, Miss Matilda Krebs, Roy Kuntz, Miss Hilda Lecky, Miss Katharine Patterson, Grafton Porch, Julius Porias, Miss Ella Swank and Philip Wolle.

In the time to come we will try to go forward and make our society better. As more people come to understand our society and its aims and as our membership increases, we will become more ambitious. We feel fully

repaid for whatever time we have spent in the study of nature.

Respectfully submitted,

JULIUS L. PORIAS, *Vice-President.*

A Remarkably Intelligent Dog.

BY MISS KATHERINE CABOT, STAMFORD, CONNECTICUT.

"Beau Brummel" is a thoroughbred Scotch Collie, of the most distinguished ancestry; his pedigree going back, in an unbroken line, for many generations. When six weeks old, he was purchased at "The City Park Collie Kennels," and brought home in state, enthroned on his owner's muff. His color is sable and white; with a Titian tint, which gives his coat the ideal shade.

He is the embodiment of intelligence and gentleness, with an expression that is tender and true. Chesterfieldian in his manner; "Beau Brummel" offers a dignified greeting to his numerous acquaintances, but reserves his paw for intimate friends, many of whom return the compliment by calling him "Beau the Exquisite."

A finished education adds to "Beau's" natural charms, for he knows many tricks, such as shaking hands, retrieving, jumping through hoops, writing a letter, speaking in whispers



"BEAU BRUMMEL."



AN INTELLIGENT DOG THAT HAS LOVING CARE.

or loud barks, and many other accomplishments.

One summer, during his owner's absence, "Beau" was taught the gentle art of letter writing. When the magic words, "Write a letter to your mother," were spoken, he would jump on a revolving desk chair, which was firmly held, proudly place his paw on a sheet of note paper and hold the pen between his toes.

The only reward for this graceful achievement was a little praise, and a pat of appreciation on his handsome head.

"Beau Brummel," nevertheless, respects himself as well as others; always requiring a special invitation to accompany his owner on walks and drives. Another most amusing trait is his frugality; for, when not hungry, he invariably covers the platter, that contains his meal, with newspapers, and oddly enough this frail protection

is always respected by his canine companions.

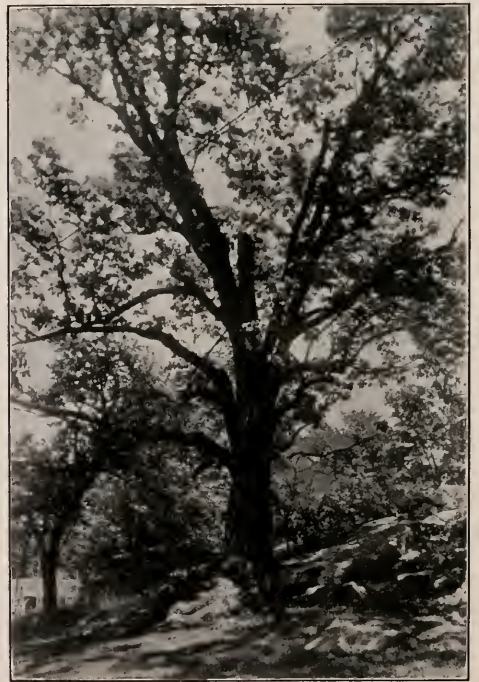
Inherited instinct and native sagacity sometimes combine to produce remarkable feats on the part of this truly clever collie. On one occasion, though never previously taught to drive sheep or cows, he performed creditably all the duties of his station; such as bunching the herd, turning back stragglers, and finally penning them, within one half hour of his first appearance in the field, an almost incredible performance for an untrained dog.

Such, in brief summary, is "Beau Brummel's" history. Loving and loved, he greets the members of "The Agassiz Association" with a JOY-BARK.

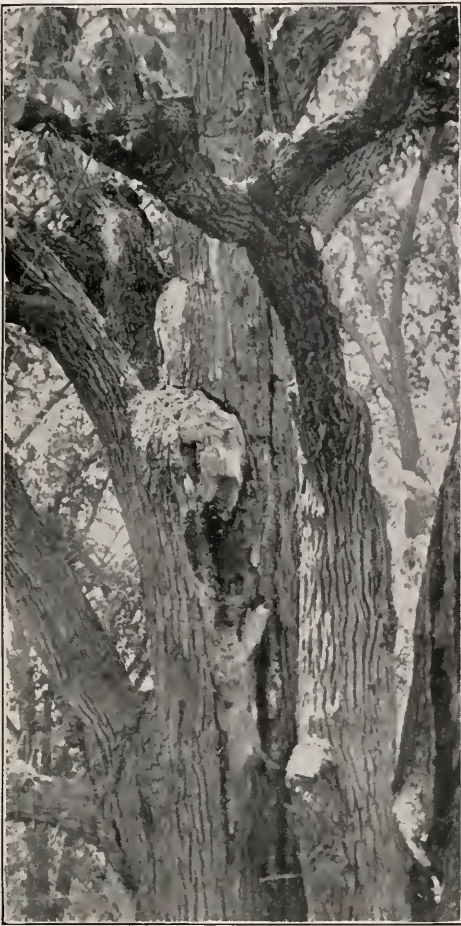
Attacked by Screech Owls.

Mr. and Mrs. Belden B. Brown of Stamford, Connecticut, report that any one walking under the huge ash tree in their back yard or in the near by garden is attacked by screech owls.

From such an attack the gardener received a severe scratch on his head.



THE HUGE ASH TREE.



THE HOME OF THE OWLS.

An Invitation From The AA.

To our subscribers who are not members:

More and more we are learning by experience that an important part of the efficiency of the work of this Association depends on the high quality and widespread circulation of its official magazine, *THE GUIDE TO NATURE*.

To increase the circulation and to render the greatest good possible to the largest number of people, we made the experiment, two years ago, of reducing the subscription price from \$1.50 to \$1.00 per year. It was also decided at that time to make the experiment of devoting a large part of the income from members' dues to the improvement of the magazine. It

should be remembered that The Agassiz Association does much work other than the publication of its magazine, and therefore has many expenses besides those of the publication of the magazine, and that these other fields of work could be greatly developed if only we had the necessary funds with which to do it. It seems advisable to keep the subscription price at \$1.00 because we have a large number of members who really appreciate the magazine and are aided by it and cannot afford to pay more. We ask those who can to become members (\$1.50 per year or higher). The magazine alone is worth the \$1.50; it costs much more, because, as previously stated, we put into it much of the contributions and higher membership dues.

You will see by the Annual Report that I and members of my family, in addition to time and much hard work, have devoted \$472.38 to the good of the AA. This amount is in addition to travelling expenses.

Please let us have your cooperation—in memberships and subscriptions to self or friends.

EDWARD F. BIGELOW.

An Improvement in the Teaching of Nature Study.

Nature study, in a certain sense, is not study, because strictly speaking the investigation of nature is natural science, and in the modern, pedagogical use of the school term, nature study means something more informal, inspiring and sympathetic than the synthetic natural science. Nature study is suffering because it has been misunderstood, especially by some of our best educators. But these troubles are gradually remedying themselves under the helpful and valuable aid of "*The Nature-Study Review*." Professor Fred L. Charles of Urbana, Illinois, most decidedly possesses the right spirit, and is doing excellent work in furthering the interests of nature study that is true nature study, and not falsely so-called.

P. S. Since the above was put in type we are pained to receive notice of the death of Professor Charles.

PUBLISHER'S NOTICES

'Tis not in mortals to **COMMAND** success, but we'll do more, Sempronius, we'll **DESERVE IT.**—*Addison: Cato.*

The Mechanical Part of our Magazine.

An important factor in the great success of our magazine has been its mechanical excellence, and for that we are personally indebted to Mr. R. H. G. Cunningham of Stamford, Connecticut, who has printed every number of the magazine since its first issue. It is only just that we should speak a word in his praise. Though his establishment is not large when compared with similar offices in New York and other large cities yet it is of fair size, and considerably above the average of those in towns of the size of Stamford, with a population of some twenty-five thousand.

Stamford is about two miles from Arcadia at Sound Beach, Connecticut,

and the magazines are brought to this office by an expressman who usually makes three trips for that purpose. The weight of an edition is about a ton. The paper comes by boat which plies daily between New York City and Stamford.

After three years' experience at Mr. Cunningham's office we can truthfully say that our only objection is that he is so often overcrowded with work due to his fame as a first-class printer that there is a tendency to delay the magazine which is sometimes a serious detriment to us. We do not want to place upon him the entire responsibility for the delay, but we frequently find him so busily engaged with large



"THE MANUSCRIPT FIRST GOES TO THE LINOTYPE MACHINES."

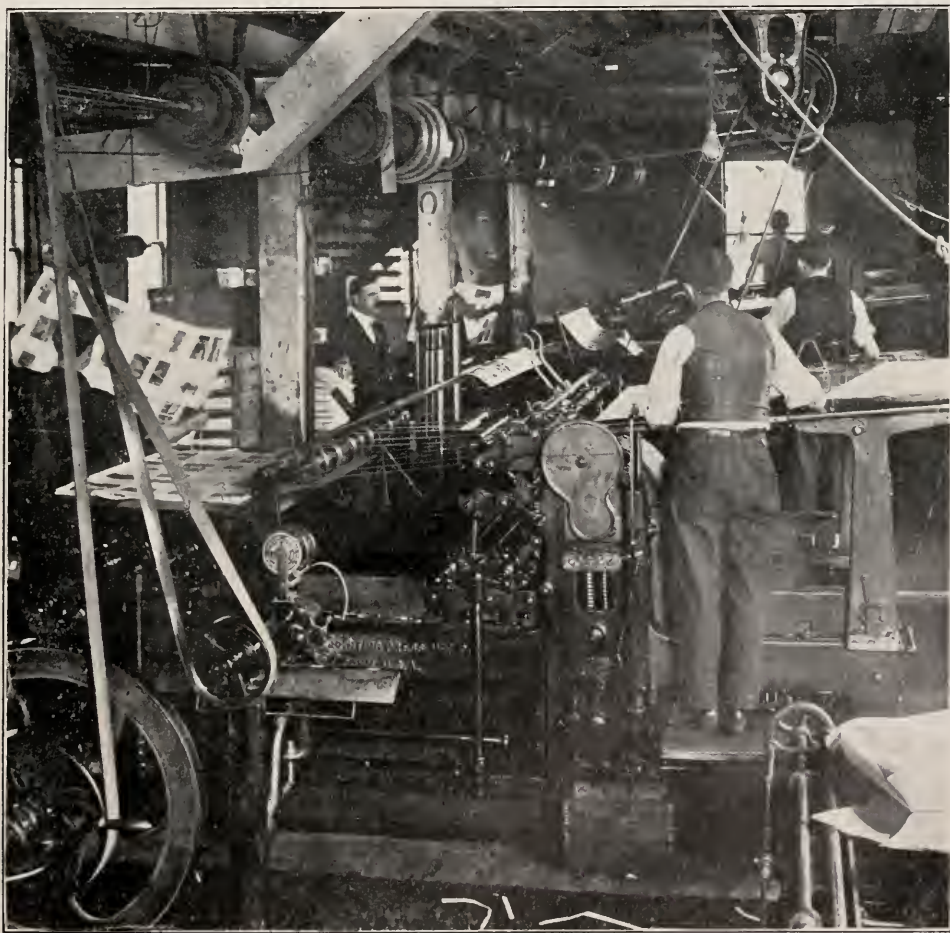


MAKING UP THE FORMS (IN THE CENTER), LOCKING UP (AT THE RIGHT) AND TAKING PROOF (AT THE LEFT).

editions of catalogues and other important work that there seems to be a tendency on the part of the office force

to hold back *THE GUIDE TO NATURE* for a few days.

We publish this statement not to find



IN THE PRESS ROOM. THE FOREMAN (AT THE LEFT) IS INSPECTING THE IMPRESSION OF A FORM OF SIXTEEN PAGES.

fault but to call our readers' attention to the many demands that come to Mr. Cunningham's office on account of the beautiful work that he does.

Our magazine is printed in highly finished, first quality, coated book paper weighing one hundred pounds to the ream, and because it is so profusely illustrated, the presswork requires very careful handling. In this particular point we think this office is far above the average. The clearness as well as the beauty of our illustrations, and the sharply defined type of our pages have been frequently and

magazine in its process through the mechanical department of Mr. Cunningham's printing office.

The manuscript first goes to the linotype machines where each line is set in one solid bar of metal and not in a multiplicity of pieces as in the old time method of setting type by hand. This process is known as "composing."

These lines of solid type are then placed in what is known as a galley, and after the face of the type has been inked by a hand roller, a long strip of paper is placed on it and an impression made by the pressure of another



IN THE BINDERY—FOLDING, GATHERING, STAPLING AND TRIMMING.

favorably commented upon. Compare the cuts in almost any issue of our magazine with those in much higher priced journals which presumably have metropolitan conveniences far above those of our smaller printing office, and the fact that the workmanship of our pages is unexcelled and cannot be surpassed will be impressed upon every observer.

The accompanying illustrations show the various phases of handling the

heavier roller. This is the "proof." After the proof has been read the corrections are made by recasting the line of type. This is inserted in the galley, and the galley thus corrected goes to the make-up man. The slightest change, even altering a punctuation mark, makes as much work as would a half dozen corrections because in either case the whole line must be recast. In the old method of composing by hand, a single type could be

changed, but in the modern way the whole line must be recast.

A duplicate of the revised proof is cut into proper lengths and pasted on what is known as a make-up sheet and then the metal on the galley is made into pages with the cuts properly inserted. These pages are arranged in sixteen to a "form" to be printed on one side of a sheet of paper twenty-eight by forty-two inches.

In the foreground of the illustration is shown the foreman who has just completed the locking of a form; that is, each page is made firm within an iron frame known as a chase. The top of the table on which this is done is a marble slab known as an imposing stone.

From the imposing stone the pages are taken in what the printer calls "forms" to the press room and sixteen pages are printed. The sheet is then turned and printed on the other side from another form. These sheets are cut and each half folded making what is known as a signature or sixteen pages. Our magazine is made up of four of these signatures.

The sheets are then gathered with the covers and two staples put through the back in what is known as saddle-back binding. The books are then taken to the cutter and trimmed. From the bindery they are carried to Sound Beach where they are mailed.

Does the Guide to Nature Pay?

Not infrequently our friends, especially members of The Agassiz Association, desiring to know the situation, ask, "Have you yet placed THE GUIDE TO NATURE on a paying basis?" Some of these friends seem to believe that to attain that result is a forlorn and hopeless task, while others, who look at things wholly from the financial point of view, make us feel that unless we speedily accomplish the paying basis it is not worth while to continue the magazine.

Let the editor frankly state that he never expects the magazine to yield a cash dividend because he is constantly putting more money into it so as purposely to keep the expense a little in advance of the income. Our present income is more than twice that of two years ago, and we have intentionally

kept the expenses in the same proportion. In other words, the more we receive the better the magazine will be made. The magazine would not be discontinued even if there were no income. It is the regular, monthly, official publication of The Agassiz Association, and if it were only a tiny four-page circular, or even a one-page leaflet of information and instruction occasionally issued to the members, it would still be continued. But why should it ever be looked upon by any of our friends as a money-making investment? Take the official journals that represent other ideals; for example, that of the Humane Society, or of a church society for the promulgation of other good things. Of them one never asks, "Does it pay?" but rather, "Is it doing good work in disseminating its ideals?" I believe that every Humane Society publishes its journals at an annual loss, and yet the publication is continued as well worth while because it is the medium through which the work is accomplished. There is no better clearing house than THE GUIDE TO NATURE, and in that respect it should go on and have the continued support of the members.

Then, too, if there were not a dollar of income THE GUIDE TO NATURE would surely stand for a high purpose in promulgating its ideals of popular science or, as voiced in that choice phrase coined for the charter of The Carnegie Institution, "the application of knowledge to the good of humanity." As such the magazine would be well worth while, and, to my mind, better worth while than many of the technical pamphlets and circulars issued by the technical societies, and in which the technical minutiae of science are piled up in enormous quantities. These are published at great expense and are distributed for the good of the cause, with but little expectation of accomplishing any financial result. THE GUIDE TO NATURE is for men and women who seek nature for enlightenment, intellectual recreation or rest. For these purposes we ask your membership, your contributions, your subscriptions, and if our Association did nothing but publish THE GUIDE TO NATURE, the results that we have already reached and those that we hope to reach are and will be well worth your financial support.

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Workmen of the H. L. Frost & Bartlett Company in the top of the tree shown in the upper left illustration on this page.

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By an advertisement the attention of our readers has been called to Courtland Terrace as a desirable building site. Now we especially invite you to visit it. The following pictures show, even at a glance, the pleasure you will have in a walk or ride to it.

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Go and see it. Inquire of any of the people whose names are in the advertisement.



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LOOKING SOUTHWARD FROM COURTLAND TERRACE.

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For All People
according to
Tastes and Talents.
Not a Cult nor a School
but A LIFE.

Vol. IV. No. 3

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, Under Act of March 3, 1879

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NOT ALL FULLY DEVELOP THE JOY OF COUNTRY LIFE.

I wish I were qualified to write the kind of a letter you want; that would be a help to many people who have the same advantages that I have, but who do not seem to get the same joy out of country life.



I loathe cities and I love the country. I wish I had land enough to create a real old-fashioned farm that could be made to pay for itself. Big old trees, fields of waving corn or yellow grain, crooked apple trees, paths bordered with hardy herbaceous perennials enclosing or leading to the vegetable garden, with spaces of green and shaded lawn, this is the sort of nature I love and would recommend to any who long for peace of mind and happy tranquility.—*Mrs. Nathalie Alexandre.*





"NIRVANA" (STAMFORD, CONNECTICUT), THE HOME OF MRS. NATHALIE ALEXANDRE, NEAR TO NATURE.

The study of birds has proved so delightful, so fascinating and so rich in rewarding every effort to add to one's knowledge, that I wish I could find words wherewith to tempt others to follow in my footsteps.—*Mrs. Nathalie Alexandre.*



THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

JULY 1911

Number 3



A Love for Nature, Both Great and Small

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



THE love and study of nature take three principal forms. There is the love of things in their larger aspect, as skies, landscapes, country roads, picturesque ravines, fields, gardens. Then there is a love in observation of the details of nature, as in the careful scrutiny of a bird, with a record of its markings and habits; or the close, prolonged study of some smaller objects of nature as in the case of a student whom I met and who had devoted six years to the study of sections of the bumblebee, and another who, for some fifteen years, had worked faithfully on the earthworm.

The unfortunate thing is that the

members of these classes do not have proper respect for one another. An important mission of this magazine is to unify the two and to show that their pursuits are so similar that practically they are the same thing.

The man who gives loving and detailed care to the trees, shrubbery and garden of his estate, and does not have them for mere show, possesses, in the ultimate analysis, the same spirit as the student who carefully fits up an aquarium of algae and then gives prolonged, enthusiastic, microscopical study to the thread-like filaments that we call algae. One, we say, loves an estate and the other is a biologist. But they are brothers in nature, if the spirit is the same; and one can be a sham with a



THE WEST END OF THE HALL AT NIRVANA.

vain show and an empty display as well as the other. The possessions of one are expressed by a deed and of the other by a diploma.

The vital question is, does that deed or diploma express a life—a thing worth living for? Fortunate is the worker in either great or small if he has his heart in the work and is not harnessed to it. But more fortunate is the member of a third class who can extract joys from both, for then he rises the highest in divine privilege, or, as Coleridge put it in the oft quoted couplet:

"He prayeth best, who loveth best
All things both great and small."

It has been my good privilege to know a naturalist of this third class—one with a love of the greater things of nature, and possessing facilities to gratify this love, as shown in the accompanying photographs.

But Mrs. Alexandre, of Nirvana, Stamford, Connecticut, is more than a lover of a fine estate. She belongs to the third class because she combines

the great and the small, and gets as much enjoyment from a tiny bird as from more conspicuous things. Because she does this so well, and because we are a GUIDE, we have asked her to give guidance and suggestions to our readers. She complies with that request in the following letter:

Dear Mr. Editor:

Nirvana, Stamford, Conn.

I fear that I have been an unconscious fraud and without meaning to do so, have given you the impression that I have studied in many of nature's different departments: but I must confess to being ignorant about many things that you have admired here in my home, and tell you frankly that such time and study as I have given to natural history has been entirely in connection with our wild birds.

Most of the beauties of this place are due to its situation and environment; such embellishment as I have added has resulted from my innate love

of the country and of color in nature. When I say country I mean "truly rural" country, separated from both trolleys and neighbors by a mile or two: for whenever land is sold in small lots and people build within a few hundred yards of each other, streets and sidewalks come next and it is good-bye to a real "country" home. I wish I were qualified to write the kind of a letter you want; that would be a help to many people who have the same advantages that I have, but who do not seem to get the same joy out of country life.

It is a fact that I derive keen pleasure from the products of the place. I mean I delight in being able to say,— "this is home-made butter;" "this is my own honey" "we never buy any vegetables." But the truth is that my bees do not owe their existence to my personal care. I know a little about bees because I have read many books on that subject. I grow a great many

beautiful flowers and we use them all over the house; but I have never studied botany, and would not know how to advise another to find in the study of the flowers an absorbing interest and delightful pastime. I loathe cities and I love the country. I wish I had land enough to create a real old-fashioned farm that could be made to pay for itself. Big old trees, fields of waving corn or yellow grain, crooked apple trees, paths bordered with hardy herbaceous perennials enclosing or leading to the vegetable garden, with spaces of green and shaded lawn, this is the sort of nature I love and would recommend to any who long for peace of mind and happy tranquility. But let me get on the subject of birds, and I can say that which should certainly help anyone, no matter how blase, to find entertainment of the most delightful kind.

I have often been asked what it was that first aroused my interest in the



THE EAST END OF THE HALL AT NIRVANA.

birds and made me buy bird books and field glasses; but I cannot recall the first incentive.

My family has always laughed at me for being a rider of hobbies, and the greeting that is most familiar is,—“Well, what particular hobby are you riding now?”

Suffice to say that seven or eight years ago something moved me to supply myself with a few standard works on our native birds—particularly those of New England and New York. Be-

up one thing after another and been so interested that I have given time and study to a particular thing for perhaps a year, perhaps two or three years, when something new would crop up to arouse a keen interest and become a temporary hobby in its turn.

The study of birds has proved so delightful, so fascinating and so rich in rewarding every effort to add to ones knowledge, that I wish I could find words wherewith to tempt others to follow in my footsteps. The essentials



A CORNER IN THE LIBRARY AND A VISTA OF THE HALL.
(The books are on the two sides of the library not shown in the illustration.)

fore this, had anyone asked me to name all the birds indigenous to this locality or the names of all the birds I had ever seen, not counting museum or captive birds, I doubt if I could have counted more than a dozen. I should have considered the following a complete list: sparrows, robins, crows, high-headers (flickers), wrens, swallows bluebirds, blackbirds, Baltimore orioles (very rarely seen), sea-gull, owls hawks, the humming-bird and the cat-bird, and though I have never seen them, I knew there were eagles, fish hawks, vultures and a few others.

Now it is quite true that I have taken

are a good book on our native birds a pair of field glasses, (the stronger the better) a little patience and a quick eye.

My reward for keeping my eyes open and training them to record the markings of birds, then looking in my books so as to verify my identifications, more than repaid me for any little trouble involved; for at the end of fourteen months from the time I began to observe the birds, I found according to my list, that I had seen and positively identified one hundred and twenty-six and *that* without leaving my own place Of course some of these were migrants;



A COZY PLACE FROM WHICH TO WATCH THE BIRDS.

but my chief gratification was due to my amazement in being forced to realize that we have birds living near us such as we never dreamed of. I hadn't the least idea that little birds with bright green backs and yellow breasts are common to New England; nor that there existed anything so beautiful a bird as the black and white warbler. I had had no knowledge of the indigo

bird, the chewink, the water-thrushes, the vireos, nor such birds as the cross-bills, waxwings, purple finch, rose-breasted grosbeak,—oh, the list is endless. It was the most wonderful revelation I have ever experienced: nearly every day brought a discovery; the exquisite colors and markings of the tiny male warblers provided continuous pleasure: that the females and



A VISTA OF THE LAWN AND THE SOUND FROM THIS PORCH.



"THE ESSENTIALS ARE A GOOD BOOK ON OUR NATIVE BIRDS, A PAIR OF FIELD GLASSES, . . . A LITTLE PATIENCE AND A QUICK EYE."

immature birds wore soberer, inconspicuous colors made identification just difficult enough to add zest to the pursuit. With each new "find" I had exactly the feeling of a victor in some close contests. And the enjoyment derived from studying the birds did not end with their identification: on the

contrary, that was only the beginning; their habits, call-notes, songs, scolding notes, all afford more entertainment than one would think possible. Although it takes about three years to become really familiar with the songs and the great variety of notes that go to make up the vocabulary of every



A BIT OF NATURE THAT BIRDS AND PEOPLE ENJOY.

bird, there is nothing tedious in the study, for hardly a day passes without some delightful surprise having added to your store of bird-lore. There always remain many birds you have not yet identified; many songs heard while the singer has kept hidden from view making it impossible to know positively from which bird the song came. Then birds as individuals vary quite as much as human beings vary; and it is great fun to watch the extraordinary difference in the characteristics of two birds

while I sat only a few feet away, talking over the telephone. I have attracted birds that had never before made their homes near my place, but that accepted invitations the very first year that I issued them. I have learned from the books that orioles generally select elm trees for their hanging-basket-nests; and I wondered why all the beautiful elms I am lucky in possessing, had not attracted numbers of these gorgeous singers.

So one spring about five years ago



THE PALM WALK IS A REVELRY OF NATURE.

of the same family. There is all the time something new to learn about the birds. It is seven or eight years since I first took an interest in them and I am just as keen as ever. I could fill a small book with interesting experiences; yet I have not had the good fortune to tame any bird so as to be able to handle it; but I have had a song sparrow feed on a piazza floor within a few inches of my feet; and once a brave little fellow flew in the window of my sitting room and hopped leisurely about the floor searching for food

towards the end of April I cut up a quantity of silk floss, colored worsted embroidery cotton, colored tie-strings and walked about tossing the bits here and there, dropping them on the grass catching them to the shrubbery and low branches of trees, with the result that orioles promptly accepted my invitation and many pairs now nest on the place every year. I decided that something must be lacking, since I had no house wrens: I discovered some nesting in a stone wall near-by, so I knew they could not dislike the locality I



SEVERAL PROFUSE BANKS OF ROSES MANY FEET IN HEIGHT.

therefore gathered some wooden boxes (the kind that jewelers use for express packages to out-of-town-customers) nailed them more securely, cut a round hole in one side exactly the size of a quarter dollar, fastened to the bottom under the hole a perch or a little platform for them to alight on, screwed in at the back two strong screw-eyes then gave the boxes a coat of paint and fastened them to trees either with long nails through the screw-eyes or with strong copper wire around a branch. I do not think I am exaggerating when

martin led me to think it would do and certainly the situation was all that could be desired. However, no purple martins appeared and the house was soon crowded with English sparrows. I let it remain in the garden for several years when I had it taken down. The experience led me to suppose that the martins preferred a different locality; but this spring curiosity drove me to order a splendid pole and a handsome martin house of Mr. Jacob who has a factory for making bird-houses at Waynesburg, Pa. This house has



IN THE AQUATIC GARDEN.

Here the birds come to bathe and to drink.

I say that every box thus made was occupied by a pair of wrens the very first year that these homes were offered. The music of the orioles was a valuable addition to the choir of birds but the wrens proved to be even a greater asset because they sing so constantly and so late in the summer when most birds have ceased altogether. I must not leave untold my experience with purple martins. In the early days of my bird study, I erected a tall pole in the center of the vegetable garden and fastened securely to the top a good-sized bird-house having five entrances or openings. To be sure, it was home-made, and rather a botch at that; but all I had read about the purple

seventeen rooms. I procrastinated so long about erecting it that I gave up all hope of having purple martins this year, and it was well into May when it finally stood on the spot I had selected. A few days later my gardener informed me that a new kind of bird had appropriated the house and was ejecting the English sparrows: that it *had a very pretty loud whistle* and flew something like a *swallow*! Well, to say that I was delighted expresses my feelings in language far too tame. In less than three weeks every room held a pair of nesting purple martins, and now I shall have them every year and must supply more houses for them. Such rewards as these more than repay for

the difficulties and annoyances; for to be honest I must own that the pastime is not all smooth sailing. Often just as you have succeeded in locating a bird so that its markings can be seen clearly off he will fly before you remembered



A TREE WITH A CIRCULAR WALL BASE.

to notice the shape of the bill or tail and you find your temper sorely tried. But if you are fortunate enough to live where there are big old trees and shrubbery, and (best of all) an orchard or (better yet) a running brook; and you are not too close to incessant traffic or many noisy neighbors, you need not follow the advice of many of the bird books that tell you to go out into the highways and by-ways and to the woods, where you would no doubt meet with certain birds; you can remain on your own piazza or at your own window, and if you have a keen ear and a quick eye, you stand just as much chance of having the birds come to

you: in fact you stand a better chance for if you invade their haunts many of them see you first and are certain to remain hidden while you are in the vicinity if they don't fly away altogether. I have a friend who found my enthusiasm about the birds very contagious and soon caught up to me in acquiring knowledge. Often after a drive in the country she would tell me of some new discovery: but although I had stayed at home it was seldom I could not report equal if not better luck. My life has been very full: I have travelled a great deal, have been a rapacious reader and have been interested in almost everything; and I can conscientiously declare that my interest in the study of the birds has provided continuous entertainment for me; has been the best antidote for boredom I ever heard of, and really has given a new zest to life. I do not believe it possible to take up the study (it isn't study, it is play) and not find it fascinating and absorbing; a certain remedy for blase people, and a wonderful resource for those who have tried everything else.

A Tree with Stone Wall Base.

Nirvana, Stamford, Conn., July 8, 1911.

In answer to your request for a letter that would explain your picture of my old Carolina poplar tree, I must go back six or seven years and first tell you of a most extraordinary storm that, late in one September, swept through part of my place and uprooted four of as beautiful old trees as ever grew. The path of the storm was very narrow, but its force was terrific while it lasted, which was scarcely more than twenty minutes and without a drop of rain.

The tree in the picture grows on a bank that slopes steeply down to the sea-wall behind it. A twin sister tree grew on the same bank about twenty feet from it; and this was the first of the four that fell. Both were such huge old monarchs that my heart ached from the loss of just that one; but it was to ache harder as in the next moment two fully mature, perfect



THE BEAUTIFUL REALM OF NATURE TO WHICH NIRVANA IS NEAR.

lindens crashed to the ground, followed by another tree, the name of which I forget.

After the storm, whenever there was a strong breeze, we could see the roots of the remaining poplar gently move up and down where they crossed a dirt walk that led past the twin trees. Moreover, for all its great height and obvious great age, the tree had not for a number of years, looked over healthy. It had no disease, but its foliage might have been more luxuriant and while it was a very handsome tree, events proved it could be handsomer. It was evident that the roots had been loosened and its position on the steep slope of a bank rendered it none too safe in any case.

How could I save it! For save it I must. Happily one portion of my beach has an unlimited number of just such stones as the picture shows, and the reader sees the result of the idea

conceived in my brain after a little thinking. My gardener feared that such a depth (4 feet) of soil necessary to fill in my circular wall would kill the tree, but it was a case of "kill or cure" anyway, so I persevered and mixed with the soil a lot of stable manure preparatory to growing flowers.

Imagine my delight when the following spring my aged poplar showed every sign of rejuvenation. It came into leaf ahead of all others: its foliage was thicker than I had supposed possible in that species and it has continued to thrive ever since. The tree certainly had taken on a new lease of life. The rich soil had much to do with its improved appearance, no doubt, but it was the tremendous weight covering and holding firm the roots that saved its life.

Very sincerely yours,
NATHALIE ALEXANDRE.



Why Do I Need an Anastigmat?

BY HERRN HYPERFOCUS.

One of the questions which is often asked by the amateur is, "Why do I need one of those high priced lenses on my camera when I am getting pretty good results with my present equipment?" The fact is that a great many people have been led to believe that a good sharp negative is only a matter of luck and it comes only to those fortunate persons who happen to have a good lens picked out for them.

The amateur (and the professional as well) often fails to appreciate the difference between the old rapid rectilinear lens and the anastigmat type, now rapidly moving to the front. The most striking property of the anastigmat is speed. At the same aperture as the older lenses, finer definition is

produced than with the rapid rectilinear.

If we wish to demonstrate forcibly the difference between the old and new type of lenses, nothing is more simple.

First. Arrange your camera so that you know the front board is absolutely parallel to the ground glass of the camera.

Second. Determine if the ground glass, focusing surface, and the plate in the plate holder are in absolute register.

If these precautions are not taken the so called "test" of lenses is absolutely worthless and it is responsible for the comments made by careless persons who can see no good in anastigmat lenses based on the evidence of their own "expert" test. If we now focus with an anastigmat upon a flat subject,

such as a bill board covered with printed matter, making sure that the bill board is also parallel with the plate surface, you will note that no matter where you look on the surface of the ground glass that you will find the same uniform definition. If, however, you should repeat the same with a rapid rectilinear lens at full opening you will notice that the corners are not sharp when the center is sharp.

An anastigmat of the same focal length will satisfy this test easily even at apertures such as $F\ 6.3$, and $F\ 4.5$. Here we have the first great difference between the anastigmat and the rapid rectilinear. Of course, if a test is made, it is very essential that lenses of the same focal length be used, although the short focus anastigmat will often equal the performance of a much longer rapid rectilinear. Not only will the anastigmat cover a larger field more sharply than the rapid rectilinear, but the aperture can be brought up so that the opening may almost equal a quarter of the focal length, producing lenses which are capable of photographing and arresting the most rapid motion.

Now when a rapid rectilinear is focused wide open, no position will be found where the image is sharp all over. This is because the field of the lens is saucer shaped, consequently, since the sensitive surface is of necessity flat, they do not coincide, excepting in the very centre. Of course, the image is improved by stopping down, but naturally we increase the time necessary for exposure, which is the very thing we do not want to do. It is, of course, assumed that the image of the bill board nearly fills the plate when the tests are made. The anastigmat under the same conditions makes sharp images over the plate from corner to corner although the stop used may be the very largest one the lens will allow.

The speed of a lens is the F value of the largest aperture at which it will make a sharp picture from corner to corner of a flat test surface, such as a test chart or a bill board as indicated above. The tests are always made on a flat surface and this, as indicated before, is always perfectly parallel to the

plate and at right angles to the axis of the lens. No "speed lens" will give quick exposures if stopped down, therefore, the word speed should be used with care in lens discussions. The misuse of the word "speed" is responsible for more misunderstanding over the value of lenses between lens-makers and the public or between photographic editors and their amateur readers than any other point.

An anastigmat at $F\ 6.3$ or greater apertures is known as a fast lens. It is six or seven times as speedy as the ordinary rapid rectilinear, for the reasons that the ordinary rapid rectilinear, no matter at what speed it may be listed must be stopped down in order to obtain results which are satisfactory. It should be noticed that stopping down the lens is the negative way of correcting sharpness. As you stop down you approach the effect of a pin hole. The pin hole is (using an expression like an "Irish Bull") a very admirable lens, which has unlimited depth, but no speed whatever.

The optician modifies the corrections of the surfaces of the glasses, and the chemist changes the composition and density of the glass until the image which the lens produces is sharp even at full opening. This is one of the points we pay for in the manufacture of the anastigmat. As stated before, stopping down the rapid rectilinear lens corrects defects, but only a negative manner. The badly corrected rays we throw away, but in the anastigmat, every ray of light gathered in by the lens is forced to do some work in the production of the image so that these rays must be wasted at the diaphragm.

It is, of course, understood that we do not photograph bill boards constantly, but when we are called upon to photograph a group we have a condition very much like the bill board. We find for instance in a group of one row that the ends of the line are out of focus when the centre is sharply in focus. Stopping down will bring a sharp focus through the thickness of the people in the group. If the group is two or three rows or many rows, the conditions are similar with an anastig-

mat. It will be noticed, however, that some stopping down will be necessary when there are several rows in the group, but if a rapid rectilinear lens were used on the same group, (a rapid rectilinear lens of the same focal length) it would be found that although you may have stopped down and attained a sufficient equality of focus from the front row to the back, that you have not yet attained a sufficient sharpness on the ends and corners. So we stop down further, losing more speed. This is a very practical illustration of what anastigmat lenses will do.

We often hear that lenses of the same relative aperture require the same exposure. This is perfectly true, but if the definition of one is not good and we have to stop down further to make it as sharp, we can then say that one lens is faster than the other.

Another great point of superiority is the critical sharpness which the anastigmat produces. The opticians standard of sharpness is his "circle of confusion," that is, the disc of light in the image corresponding to a point in the object. In theory, the points of the image should be mathematical points but as a fact they are of considerable size. When they are but $1/100$ th inch in diameter, the eye perceives them as points and we say the picture is sharp. But if enlargements are to be made or lantern slides which will be projected enlarged on the screen, the standard of definition must be raised to $1/200$ th inch, etc. As the anastigmat gives better definition than the rapid rectilinear, its negatives are capable of greater enlargement. By stopping down the "circles of confusion" become smaller and the enlarging possibilities of the Anastigmat are correspondingly greater.

For standing figure work, the advantages of the anastigmat are self-evident. We have often endeavored to make a standing figure with the ordinary portrait lens or rapid rectilinear. Unless we make a figure which is very small, we find that when we focus on the head or the feet, the body of the subject will not be in focus; and if we

try to focus on the body, we will lose the sharpness on the head and feet. We are, therefore, forced to stop down on account of the curved field of the lens and the result is that when we have a satisfactory focus on the standing figure, that we have reduced the light to such an extent that a much longer exposure is required.

As the depth of a moderate focus lens at F 6.3 is often ample, the anastigmat can often be worked at this aperture. Herein lies the speed of an anastigmat from a practical standpoint. It is a cloudy day, perhaps a rainy day, or perhaps by force of circumstances the photograph can only be made at late hours of the day. The anastigmat with its large opening gives a full timed negative, whereas the rapid rectilinear must be stopped down beyond possibility of hand exposure, except with aid of the tripod.

When light permits, stop down and gain the depth you want. When you can't have all the depth you want, you will be forced to put up with what you can get. Many times with an F 4.5 lens, you can get enough depth for the exposure of the important subject you want. If light permits, stop down. This brings up a peculiarity of the B. & L. Zeiss Ic Tessar. When stopped down, the definition is not impaired. This falling off of quality in high speed lenses stopped down was very marked with the early fast lenses, but is entirely overcome with the Ic type.

We are often asked, how can you get speed with depth? This is a photographic impossibility. If your fast lens has not enough depth for your individual taste, at its full opening, sell it and get a shorter focus one. A 6 inch F 4.5 lens has much more depth than an 8 inch F 4.5 lens, in fact a 6 inch F 4.5 lens has more depth at F 4.5 than an 8 inch at F 6.3.

We will give a practical problem. A man wishes to make a photograph of a house, and the time of day is late. He has no tripod. By using the 6 inch lens he can obtain a sufficient depth of field to render the different objects he wishes to be sharp. The man with the 8 inch lens is stuck. If he stops down,

his exposure will be prolonged and he cannot hold the camera still. At the same distance from the house, the perspective effects will be the same but the 6 inch image will be but three quarters the size of the 8 inch image. But the 6 inch image can be enlarged successfully and if enlarged to the same size as the 8 inch image is enlarged to, it will be equally as good in sharpness but will have more planes in focus.

The Tessar Ic is the lens for speed and can properly be fitted to the reflecting type of camera, like the Graflex, with focal plane shutters. Having a limited depth at large openings, the focusing device must be delicate and the camera ground glass and the plate or film in absolute register. The fast lenses of the past have been specialized lenses and have suffered in comparison with slower anastigmats, when stopped down to the smaller apertures. The Ic Tessar was designed to overcome such defects and is also corrected for color. It makes an admirable lens for the Lumiere Autochrome process of Color Photography and serves to reduce the exposure for reds and yellows. The Ic Tessar also fills the need for a fast lens for home portraiture where speed is of the utmost importance.

For hand cameras with scales for judging distance, and the plate camera with metal between-lens shutters and focusing screens, the Iib Tessar is a desirable choice. This is also the lens par-excellence for copying and enlarging. The Iib Tessar can be employed as a wide angle lens by stopping down and using it on a larger plate. It is not mechanically possible to fit a faster lens than the Iib Tessar to the Kodak Models nor is it desirable in view of the limited depth of very fast lenses with the difficulty of judging distances.

Those who have much work to do of a landscape character will appreciate the VIIa Protar. This lens is made up of single lenses, which in turn are made up of four cemented lenses. As a doublet the Protar will equal the Tessar in speed. They are somewhat bulky and unless convertibility is desired, the Iib Tessar is a better selection.

The Protar VIIa should never be selected unless bellows length is available for use of the single combinations. In the hands of the discriminating man, the VIIa Protar has advantages which are inestimable. Suppose you wish to make a view from an outlook and find the image scale too small. You use the single lens and perhaps are forced to use the other single lens to bring the image size correct. Without aid of the convertible Protar this could not be accomplished at all, unless one had an aeroplane to hold the camera suspended in space at a nearer distance.

A word about the wide angle lens may not be amiss. Two series are made, the Bausch & Lomb-Zeiss Series IV and V, the latter having the wider angle and for a number of years regarded as the standard wide angle lens of the world. No lens is wide in angle if used on smaller plates than what it is listed for. The so-called "distortion of wide angle lenses" is not distortion at all, but merely exaggerated perspective produced by including in the photograph so great a mass of detail that the eye is not accustomed to see without moving the head from side to side.

We should not use a wide angle lens unless forced to do so on account of the bad perspective which results. But in practice, we have to take things as we find them, for if we insist upon using a long focus lens in order that our perspective should be correct, we should have to knock out the wall of the room perhaps to get back far enough to secure the proper angle, or move a house which is in our way on the side of the street when we are working in constricted situations.

Where the angle is not excessively great, the photographer can impress his Tessar Iib into action as a wide angle lens. By using the Tessar on a larger plate than that for which it is listed, we will find it will cover with good definition the outer edges of the plate, by stopping down somewhat. With the Tessar, we have the means of focusing at $F\ 6.3$, instead of $F\ 18$ or $F\ 12.5$, a great advantage in dark in-

teriors or in flash-light work. You focus wide-open and stop down until your depth is attained.

Purchasing an Anastigmat.

The prospective purchaser of an anastigmat photographic lens is referred to our advertising pages. Therein are announcements from several opticians. Every lens is first-class. (We will not admit to our advertising pages anything that is not first-class.) Some camerists prefer one kind; others, another. It is largely a matter of individual preference. But you will do the best work with the make that you like best and *feel* is the best. There is a bond of sympathy between a camerist and his high grade lens. They work well together if they like each other—Ed.

Putting on His Best Expression.

Mr. John H. Davis, of Baltimore, Maryland, sends a photograph, reproduced herewith, of a child photographing a dog. As an ordinary attempt to snap shot a dog or, rather, of some photographer to pose the child and the dog, it would not be extraordinary, but

the dog's expression and the poise of his head are more than worth the entire price of admission to our pages. It is a remarkable example of self-consciousness, or at any rate of an attitude that gives the dog the appearance of putting on his best expression for the camera. That the dog held his head in that position may have been a coincidence, but even if it were, it surely is well worth publishing as an unusual coincidence. The photograph was taken in Seattle, Washington.

Don't Do It.

"Photoisms" says:

"Clean the lens. Clean it each time you reload. 'Under-exposure' is generally due to carelessness in this respect."

Several magazines devoted to photography keep saying, "Clean the lens." Don't do it. Keep it from getting soiled or dusty. The surface of a fine lens is far too delicate for constant performance of the scrubbing act. The anastigmats I use are in perfect condition and always have been so since first received. Cap the lens after every exposure and keep capped. Don't let it get soiled.



EVEN A DOG INSISTS ON CONSCIOUSNESS-OF-THE-CAMERA EXPRESSION!



EVERYBODY CONTENTED AND HAPPY!

Cows Suckling Pigs.

The illustration on page 379 of the issue of *THE GUIDE TO NATURE* for January, sent to us by Alson Secor, Associate Editor of "Successful Farming," Des Moines, Iowa, attracted much comment and some unfavorable criticism from those who allege that such a thing is impossible. Some experienced farmers made such remarks as, "That isn't true," or "The cow would not stand for it." These farmers remind one of the old man who went to a menagerie and for the first time saw a giraffe. After gazing at it long and intently he turned away and exclaimed in disgust, "There hain't no such animal!"

Although we showed the photograph of the cow suckling the pigs, some of our readers, other than farmers, did not take it seriously but regarded it as belonging in the class of pictures made to amuse or to deceive. But it is literally true, and now comes one from Mr. L. B. Whitnall, Battle Creek, Michigan, that is even more expressive. The illustration is published herewith and shows that not only are the pigs having a thoroughly good time but even the cow seems to approve, having an air of contentment and, one might almost say, of pride, in her enthusiastic even if new form of triplet calves.

Photographing a Boat Race From Above.

Photographs of boat races taken from the bank on the same or nearly the same level as the racers, are plentiful, but here is one that is unique since it was obtained from a bridge high above the water at a point nearly over the racers.



A PHOTOGRAPH OF A BOAT RACE FROM ABOVE.

The photograph represents W. G. Quackenbush and George Stratton of Oxford, New York, in a strenuous race on the beautiful Chenango River which flows through the center of the village. The photograph was taken by Ernest L. Graeff of Oxford.

Civilization is first and foremost a moral thing.—*Amcil.*

A Book of Lens Facts.

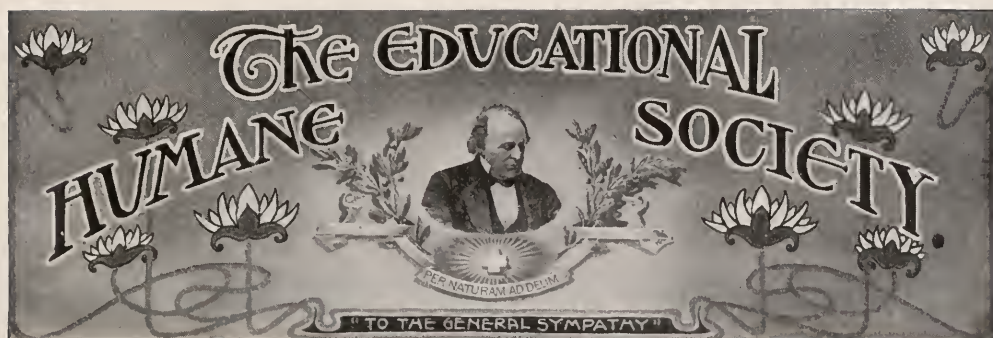
Messrs. Bausch & Lomb Optical Co. of Rochester, N. Y., are sending out a little note book of Lens information and Tables giving all the facts regarding stop values, view angles, exposures for moving objects, etc., in fact everything of a tabular nature that you need to know about a lens. They will be sent gratis on application.



SOUTHERN FOX SQUIRREL (FLORIDA).

Photograph from life by Dr. R. W. Shufeldt.





A Chapter of the Agassiz Association. (Incorporated 1892 and 1910.) The Law of Love, Not the Love of Law.

The Elevation of the "Common" Cat.

Because the interest and beauty of the commonplace in nature are our ideals, and our chief work is to exploit those and strive for full appreciation of the "common," I at once felt much sympathy with Miss Jane R. Cathcart, Oradell, New Jersey, when I learned that she is trying to elevate the "common" cat to its merited place of dignity, interest and appreciation. So likewise I feel that the appreciation accorded by many people to the Persian cat to the exclusion of the ordinary, everyday and equally lovable cat

is unjust. Good quality and real beauty wherever they are found are worthy of praise, and when I have heard some one go into ecstasies over an expensive, imported cat with extremely long hair and unusual appearance, I have wondered why a favorable word is so seldom spoken for our commonplace "fireside Sphinx." Are acquaintances that come to us from the abnormal or from foreign lands more worthy than the familiar within our home surroundings? They should not be

Moved by such thoughts I shoulder-



LOG CABIN NO. 1.—A CAT HOME.

ed my camera and started for Oradell. Here I found an unusual appreciator of the uncommon "common," one who has evidently been inspired by the thought that the Persian cat, lovable and meritorious as it may be, should not be valued so much above the "common" short haired cat. Miss Cathcart

that may come under her notice and care.

Then too, I like to meet persons who believe that a thing worth doing at all is worth doing as well as possible. Miss Cathcart is a member of that commendable company. To do her best with what Miss Agnes Repplier,



LOG CABIN NO. 2 FOR CATS.

Even cats apparently enjoy rusticity and nearness to nature.

has searched far and wide for the best specimens of the domestic cat, her purpose being not only to elevate it to proper appreciation but to cultivate and enlarge any particular merit that she may discover in any of the animals

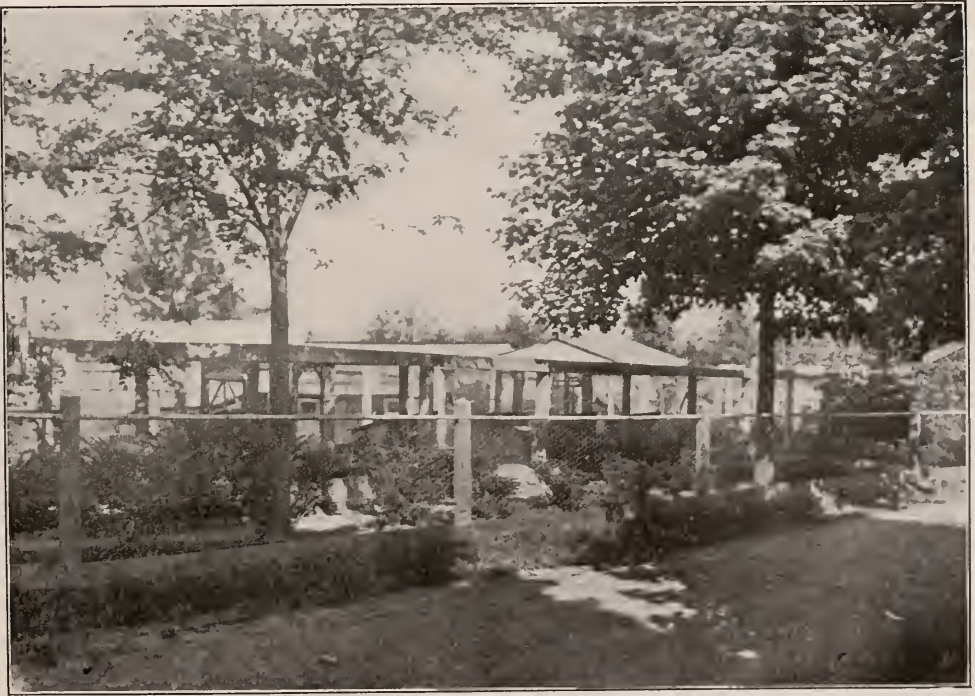
the essayist, calls our "fireside Sphynx," Miss Cathcart has built a large and well equipped cattery. Things here are not done in a half-hearted way. Implicit faith in the merits of the project is manifested



WHERE THE VISITORS ENJOY THE SOCIALITY AND REFRESHMENTS.

everywhere. Kings and queens in short haired catdom are treated as their royalty merits.

My camera tells the story of a few things as I found them, and, in response to my request, Miss Cathcart



A ROADSIDE VIEW OF A SECTION OF THE HUNDREDS OF CAT YARDS.

has told in the following letter to THE GUIDE TO NATURE why and how she pursues her work.

Letter from Miss Cathcart.

The Black Short Haired Cattery was so named in honor of the one who practically was responsible for its existence, a French poodle, "Black" by name and color, whose favorite friend was a black short-haired female cat of wonderful intelligence, who when she died, left behind her a daughter, known to all old friends of the Cattery as "Tiger." It was originally intended to breed only black cats here, but the difficulty in securing good males was so great, and there was such a demand for all colors, that the Cattery became a general, rather than a specialist breeding centre. As at that time there were no pedigreed short-haired cats to be found in this country, the owner paid a visit to England, making the acquaintance of the best known breeders there, from whom she obtained her foundation stock—Champions Belle of Bradford, an exquisite Orange Tabby male, and Prissy and Lady Ann, two extremely handsome black females. These cats went the



THAT INIMITABLE ANGELIC EXPRESSION.

round of the American shows, making a name for the hitherto despised "common" cat which is gradually lifting it from a state of degradation and suffering to the status of its more favored brother, the Persian.

The points required to make a good domestic short haired cat are the same as for the Persians, with the exception of plume, feathers, and ear tufts, which are peculiar to the latter;—*i.e.* he should be cobby in build, with short tail, small feet, large round head with large round eyes, and small ears, set far apart. The eye color varies with the color of the coat,—being orange for black, blue (maltese), or orange; blue for white (though orange eyes are allowed in these cats if they excel in other points); hazel for brown tabby; and green for silver tabby. And here let me suggest a point that all unprejudiced fanciers allow, which is that in all "tabbied" or striped classes, there is no cat to equal the short-haired cat, for with him alone you get the full benefit of the markings, sometimes so distinct they seem stencilled on his fur.

Besides the ordinary common or domestic cat, there are many fancy or foreign varieties of short-haired cats, good specimens of which are excessively rare. Among these are the Siamese, a cream or chocolate colored cat, with dark seal brown points and blue eyes; the Manx, not only tailless, but with a



PERFECTLY HAPPY AND BEAUTIFUL, EVEN IF TAILLESS!

hollow where the tail ought to be, and long hind legs like a rabbit; the Abyssinian, a pepper and salt variety of which there is only one in this country today; the Russian, a foreign bred maltese invaluable to breeders because the race has been kept pure for many

Silver Stripes, best known sire of silver tabby kittens, and his consorts Champion Dame Fortune II. and Sweet Alice; Ramsay (male), Ellen Vannan and Princess of Peel (females), imported Manx; and many others too numerous to mention.



JUST THREE TO WIN YOUR LOVE.

generations; and the Australian, a new breed that has many enthusiastic devotees.

The prize stock of the Cattery today consists of Champion Siam de Paris, who has had the honor of winning "Best Stud in the Show"; Champion

In connection with the short-haired cat in particular, and the cat in general, I would like to express myself on some questions that have long interested me as a cat fancier, and a lover of animals.

Many people announce with great pride that their cats are blessed with



WE ARE SO RARE AND ATTRACTIVE THAT WE ARE VALUED AT FOUR HUNDRED DOLLARS.

seven toes on each front paw, and that they look down upon and despise any cats that can not boast as many. They probably do not realize that they are boasting of a deformity, for seven toes are just as abnormal for a cat as a club foot for a man.

There is also a great prejudice among some people in favor of excessively large neuter cats. Now neuter cats are undeniably large, or get to be so in time, and there is no question in my mind but that they make the *only suitable pet cats*, but if they grow in weight beyond a certain point they become abnormal, and a post mortem

pagated in our streets under the most adverse conditions, because ever so many sentimental persons "just love to have female cats for pets, the kittens are *so* cunning," until they become annoying or too many, when they are promptly turned out in the streets to shift for themselves. There they take up there abode in dark and filthy corners, live on garbage, and rear their families, to become a nuisance to the public, and some say, a menace to health. But the army of the living is as nothing to the army of the dead.

Again we are told that cats are treacherous, and this belief, thought-



THE ATTENDANTS REALLY LOVE THE CATS.
Only cat lovers are permitted to care for them.

would show the organs to be diseased, a condition certainly not to be cultivated.

Have you ever heard that a cat had nine lives? If you have go into the business and try to raise them by the quantity, and you will change your mind! It is true that an occasional strong healthy cat will live through an extraordinary amount of torture (more shame to the human nature that degrades itself by such practices), and that a great number of cats are pro-

lessly accepted by many people, is responsible for a vast amount of the misery endured by our feline friends. *The cat is not treacherous!* Its teeth and nails are sharp, and it often gives a scratch while playing, as a strong man in shaking your hand will come perilously near to crushing your fingers. The man is forgiven, but not the cat. On the contrary the master's hand is withdrawn, Puss receives prompt chastisement, becomes frightened and rebellious, snarls and bites or

scratches in dead earnest, and is off like the wind, forever branded as a vicious brute. Cat nature is nervous and timid, but no cat ever attacks a human being except through *FEAR*. The reason for the fear may be generations back, but it is fear nevertheless, and will only yield to constant, and sometimes long continued kindness. But Puss has a rich storehouse of love in his makeup, and in his own fashion will reward you generously for any love and kindness you bestow upon him.

The Ring-Tailed Racoons.

BY R. W. SCHUFELDT, M. D., WASHINGTON,
D. C.

Apart from general students of natural history and mammalogists in particular, there are but comparatively very few people in either the Eastern or Middle States who ever heard of such an animal in this country's fauna as a ring-tailed racoon. Personally, I have known them a long time from illustrations, printed descriptions and so on, including museum specimens, before I ever saw a live one. The first of the latter that ever came under my observation was about a year ago when the National Zoological Park acquired a fine living example of the genus. So far as my knowledge carries me, no photographs were ever made of



A RING-TAILED RACCOON.

The two photographs on this page are from life by Dr. Shufeldt.



A PET RING-TAIL.

it, which is far too frequently the case in that institution, be the animals common or rare. There are several species and subspecies of these interesting mammals known to science. We may say in passing, however, that these 'coon-like creatures are known by several vernacular names in various localities. The form occurring through Oregon, I am told, is known as the "coon-cat;" in the southwest, the subspecies there found is the "miner's pet" or "mountain cat;" in Mexico it is the "cacomixl." Ring-tailed racoon is sort of a semi-scientific name for any member of the genus irrespective of the region in which it occurs.

Recently there came into my possession a living ring-tailed racoon. It is also called "civet cat," and as a matter of fact the earlier naturalists classed these forms with the civets, but I am of the opinion that if any such relation exists it must be very remote. It landed in my study in a commodious and comfortable cage, where it remained for four or five days, being fed upon sliced up apples and raw meat. What it enjoyed most, however, were the big breast muscles (pectorales) of

an hundred dollar Mexican yellow-headed parrot that died in a local animal store while the 'coon was in my possession, which parrot was sent out to me to skeletonize.

I was informed that this 'coon was taken in a wild state in South Carolina, or maybe North Carolina, and in any event nearly the whole half width of the United States distant from where any kind of these animals range in nature—some parts of Texas, I believe, being the nearest locality for them. Moreover, it may have been brought up the coast from some place in Mexico, on shipboard, and then escaped in the south after having been landed in this country—for there are Mexican species of it as we shall see further on in this article. The individual now in my temporary keeping proved to be a young female, and, judging from what I subsequently learned, hardly more than one half grown. As there are no good figures, much less photographs of it, extant, I was particularly desirous of succeeding along this line with my camera—its skeleton being something I hardly hoped for, for description. When I came to handle her, she was as cross as a crab, while on other occasions she was extremely gentle and very teachable. For four and a half hours on each of two successive days I kept at this agile and wonderfully nervous little creature, during which time I exposed no fewer than fourteen eight-by-ten fast plates on her in my study, in my efforts to secure a completely satisfactory negative. Rather an expensive undertaking. However, toward the close of the second afternoon success commenced to come my way as through patience, gentleness and finesse on my part, and a peculiar intelligence on the part of the animal, I finally made two illustrations to the present account.

This animal is undoubtedly related to our common racoon (*Procyon lotor*), but has a very much longer tail which is banded black and white (see figure). The markings of the face resemble those of its larger congener, while its under parts are buffy tan color, being somewhat darker above. In action and

behavior, generally, it is quite 'coon-like. It is largely arboreal in nature, quick and extremely active in habit, to some extent nocturnal, and lives chiefly on fruit, birds and various insects. In the country homes in some parts of Mexico, the species there found are kept as pets, becoming very tame, and are useful in destroying mice and other vermin about the house. Often we find four or five of them in the same establishment. Few specimens of them are in the collections of the United States National Museum.

A True Bird Story.

BY MRS. CAROLINE BLOOMINGDALE, FROM
JOHN PHIN, PATERSON, N. J.

A few years ago while living in the country, we had one chimney that was never used in the summer time. A chimney swallow built her nest in it. One day while sitting in the room I heard something drop in the fireplace. Removing the fireboard so that I could look, I found that a nest had fallen down. In it were three young birds, too young to have feathers. One of them seemed to be hurt. The nest was broken. We found an empty robin's nest into which we put the birds. I then replaced the fireboard, leaving it so I could watch them without being seen. I wondered if the mother bird would find them. So I waited and watched with a great deal of interest to see what would be done. But the mother bird heard their cries when she came with food for them and so they were fed by the old birds. They would bring water in their bills to them. I spent a great many hours watching them, sitting where they could not see me. When they were older one of the old birds, I do not know which one, would talk to them in their way, a few notes, and the little ones would imitate them. Then the next thing was to teach them how to fly up the chimney. The old bird would fly up a little way at a time. One day the parent birds were gone a long time for them and I was afraid they had deserted the little ones, but late in the day they returned and brought something that was given to the one

that was hurt, and not to the others. After a time they learned to fly up the chimney, until one morning I found them gone. You cannot know how much I missed my little companions, for I had spent so many hours by the fireplace watching them.

Japan Rats and Sparrows.

Speaking of rats, it may be said that there are two creatures at least, with a decidedly better reputation in Japan than in Europe or America—the rats and the sparrows. Rats take rank as the favorite messengers of the god of wealth, Daikoku, one of the seven deities of felicity. They often appear in Japanese art with the likeness of the god, and the people approve of them under ordinary circumstances, for the reason that in house or land where there is not rice or barley for them to eat, they will not condescend to build their habitations. The Japanese sparrows are lighter in color and a bit friendlier perhaps than their Occidental cousins. Probably because all the insects needed for their food are supplied by nature in a warm country, they do practically no damage to the crops. The Japanese are glad to have these little feathered friends build their nests

in the eaves of houses or temples, and to hear them chirping gaily in the bamboo groves close by. The bamboo and sparrow form a conventional group in Japanese painting and poetry, as do the moon and cuckoo, the pine and crane, the willow and heron, and the sun and crow.—*The Oriental Economic Review*.

Daylight Flights of the Nighthawk

BY LOUIS S. KOHLER, BLOOMFIELD,
NEW JERSEY.

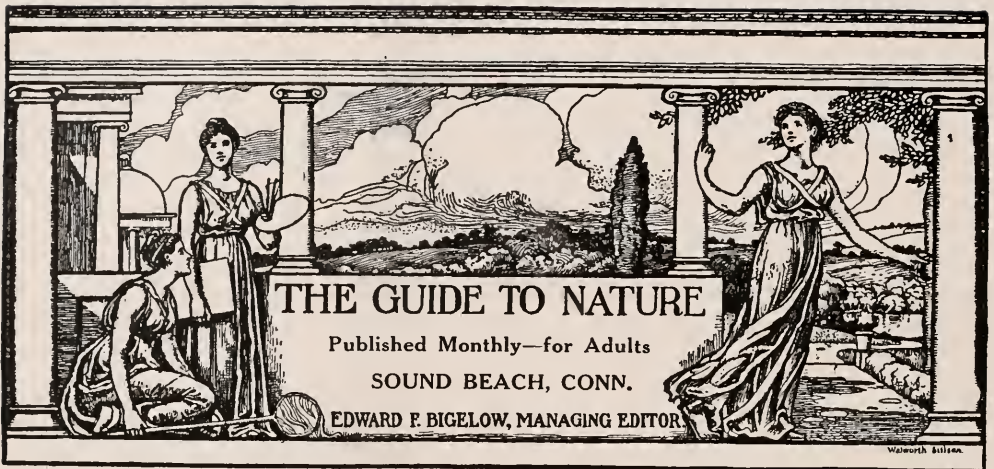
During each May and June for several years past, there have appeared daily over the heart of Newark, N. J., small flocks of nighthawks at times ranging from 9 A. M. to 6 P. M.

This is quite an unusual procedure for these birds as they very seldom appeared formerly before nightfall. It is my opinion that they are attracted here by the abundance of mosquitoes which infest the air in great multitudes throughout the day.

At nightfall these insects descend closer to the earth and the nighthawks retire to their homes on the adjacent hillsides and it is very seldom that one is heard on the feeding grounds after dark.



A DELIGHTFUL STUDY IN THE CARE OF HOME PETS.
Ebenezer Hobbie, Banksville, N. Y.



The Esoteric Few.

Years ago I read in "The Literary Times" of New York City an extended review of some nature book—I have forgotten what or by whom, but one expression in that essay has clung to my memory and to it I frequently make mental reference. The reviewer said, "The worst thing and perhaps the only really bad thing about all these naturalists is their assumption that they are 'the esoteric few.'"

That collocation of words impressed me chiefly because I did not understand it. Why should the reviewer make that charge against the naturalists? I had been trying to teach the true democracy of nature and to interest all classes of people in nature. What was there esoteric or exclusive about that? As an outcome of my desire to be helpful I started *THE GUIDE TO NATURE*. Since then I have learned about "the esoteric few." This morning there comes to my desk a letter from a famous specialist in mosses. He says:

"But really I am unable to see what articles on millionaires' country farms have to do with nature and I am not the only one."

Occasionally there are other letters that come to my desk and voice this same inquiry. The whole cause of this misunderstanding of nature, the great drawback to its popularization are "the esoteric few." The owner of the automobile, or the owner of a fine

estate which is only an exhibition of nature under good care, looks upon the naturalist as a queer being and may call his place of work a "bug house," implying that he delves in things uncanny and disagreeable. To most people the man who peers into the microscope to study the leaves of a moss is so expressive of "the esoteric few" that he cannot understand how men can look with unaided eyes over a beautiful landscape and find exactly the same pleasure that he finds in the beautiful cells of Mnium. If there is any one ideal that this magazine hopes to realize it is to be democratic and to make a universal get-together club. Classes and masses clashing against one, another are as reprehensible in the service of Mother Nature as anywhere else. In my opinion the man who exploits a large phase of nature to the public is as truly a naturalist as the one who, for an entire evening at a microscopical exhibition, presides over a compound microscope. The man who studies, cares for and loves a tree on his premises is as much a naturalist as the man who has the same feeling regarding a mineral in his cabinet.

Most of the trouble in this world is caused by the unkindness of other persons. A naturalist with a good microscope, a good collection, plenty of zeal and a little money is apt to look jealously upon the nature lovers who walk through their beautiful gardens or ride in an automobile through a beautiful

country, and say, "Oh, they are only millionaires—they cannot know anything nor enjoy anything as we 'esoteric few' can enjoy." On the other hand, the wealthy nature lovers might look upon this naturalist in the field with his net as an abnormal being with "wheels in his head." We say envious things about millionaires' estates and despicable things about the "crank," because each of us is trying to be esoteric. The pitiable "esoteric few" are those, whether they have much or little money, who have neither eyes nor heart to get in touch with Mother Nature's wonderful bounties.

The writer of the letter containing the criticism is a famous specialist in mosses who is doing excellent technical work, and frequently pauses and takes time to induce others to join in his favorite pursuit. He and the millionaire's estate are in exactly the same category only the estate is on a larger scale because its owner has greater means with which to accomplish his purpose. Where the specialist has had a few students to these beautiful plants, the other naturalist with the greater ability that comes from more money has taken thousands to the trees, the flowers and the birds.

We all are children in Mother Nature's garden. Some must care for the trees, some must watch the birds and some must peer with a lens into the cells of a moss. Let each worker try to cheer with good words the labors of the other and not be envious. So live that the Owner of this garden may say to each worker, "You are doing good by introducing others to My garden, and by making Me better known to them."

* * * *

Futhermore there is another point of view often brought vividly to my attention. In the early numbers of this magazine we published a story of rabbits from the point of view of The American Fur Fanciers' Association, whose membership is almost entirely composed of adult men and women. One of our microscopists wrote that he did not want the magazine any longer

because it is too "kiddish" and publishes articles on children's pets. I wonder what there is about a rabbit that is "kiddish," and what about the rotifer and its curious antics under the microscope that makes it "mannish." Why are the large things so little and the little things so dignified and scientifically so large? Why not live and let live? Does every reader of every magazine find every page to his liking? Why not select and absorb that for which he has an affinity, and let the other reader take what he discards as uninteresting, uninstrutive, too elementary, or maybe too——, the present reader may supply the word that suits his needs? To me your countenance may have the beauty of an angel; to my companion it may not be worth even a single glance. Isn't it Shakespeare who says that the point of a jest lies in the ear of him that hears it? Possibly the excellence of a magazine lies in the cerebral structure of him that reads it. The thought is worth considering.

By Example Rather Than By Precept.

The greater number of our readers thoroughly understand the ideals and the principles under which The Agassiz Association is doing its work, and they also understand the phase of it that is exhibited in THE GUIDE TO NATURE, but occasionally, from a reader in places far distant from Arcadia, there comes the objection that we are localizing the magazine too much, and as an example the fact is cited that we have "written-up" several local people. As a naturalist I necessarily write only on the subjects that come within my immediate observation, and I use these for the enunciation of principles. They are as comprehensive as the circumference of the earth.

Occasionally a teacher will say, "We want a little more material regarding birds and plants for use in the school-room and wish you would tell us more about our common things along these lines." My reply to such is, get a textbook on those subjects; we stand for certain humanistic principles. Please turn to the first cover page and read

that the magazine is *THE GUIDE TO NATURE* not *THE GUIDE POST TO NATURE*. A guide is a person; a post is a thing; and we like to illustrate general principles in relation to nature by personality. If I were to tell the story of the interesting traits that I had observed in a robin, a squirrel, or a cyclops, it would be as interesting from the naturalist's point of view, if read in the heart of Africa, though that particular variety of life might not be found there. The same principle is true regarding the articles that *THE GUIDE TO NATURE* has been publishing. If we had said, "The observation of nature is a relief from the cares of an office," or, "It is a very excellent recreation after the duties of a professional life," no one could call it a local statement. I regret to note that when we make that precept concrete as in the lives of Commodore E. C. Benedict and Dr. Robert T. Morris, some one says, "You are localizing the magazine," seeing only the fact that these gentlemen live in this vicinity. The example that Mr. William L. Marks has set to the entire world is, to my mind, far more important than to say that I saw a robin enter her nest at the northeast corner, or that I had observed a snake coiled with his head toward the south. I am a naturalist and thoroughly believe in the value of accurate observation, but I also believe that many observations are as useless as some photographs. The world is too full of beauty to make it worth any camerist's while to start in to take promiscuous snap shots simply because the scene is beautiful. This magazine stands for things that mean something, and it stands for lives in nature that have not lived in vain.

When Mr. William L. Marks at great expense maintains a private estate and cordially invites the public to use it, here is a display of a phase of nature and a trait of human nature that the gods, and the angels too, might well observe, admire and put on record.

When one sees monuments shrewdly erected by paying only a part of the expense and saddling the rest upon a

heavily taxed and overburdened community; when one sees money spent idly in a vain display that will mean nothing to posterity, then I say, herald to the remotest part of the earth the altruistic self-abnegation portrayed in the article on Judge John Clason. That example is not a local "write-up;" it is history that reaches to the heavens and if you, still living far on this side of that locality, can see in such an example nothing but a local "write-up" I can quote only the reply of the artist who, when a supercilious woman said, "I never saw a sunset like that," replied, "Madam, don't you wish you could?"

I am not so much trying to help people to see something in nature as I am trying to induce them to be something as the outcome of their observations of the lives of men who are correctly blazing the way. This is a magazine of helpfulness. Hundreds of articles, and thousands of photographs, have gone back to the author or to the photographer, for the reason that their publication would not help anybody. Science for its own sake, the measuring of the angles of crystals, the length and diameter of the hairs of guinea pigs; the recording of the spots on a potato bug, the ascertaining of the color preferences of newly hatched turtles, all have their place, but that place is not in *THE GUIDE TO NATURE*.

This magazine and The Agassiz Association literally stand for "The application of a naturalist's knowledge to the good of humanity." If a boy or girl can be made better or helped to become a good man or woman through the influence of a turtle or a frog, then let us have the turtle and the frog; but at the very moment when that turtle or frog ceases to help the boy or girl, let away with it, and get something else that will renew the effect or produce the desired result.

If there is any one thing above another about a selfish naturalist or any other egoistic crank that I dislike, it is an attitude implying, "You must be interested in my pursuits."

Professor L. H. Bailey has clearly defined the difference between science



and nature study. Science thinks of the thing; nature study of the pupil or the thinker. This magazine and the association that publishes it, so long as it is under the present management, will keep its eye steadily fixed on humanity rather than on the natural object. The Word of God means nothing except when exemplified in the lives of men. The same is true of the Works of God.

We are local only in our examples. Our examples exemplify the principles of our labors. We hope always to be *THE GUIDE TO NATURE*, not the *GUIDE POST*, to *NATURE*, but we desire more than this to be not alone a guide in a wilderness where we may be in communion with nature, but enthusiastically to lead people to live a better life by introducing them to nature.

If the teacher from Illinois, who has asked that there be more regarding birds and flowers in *THE GUIDE TO*

NATURE and less about human beings, will pause for a moment after telling how Mr. and Mrs. Robin brought a wriggling angleworm to the young robins in the nest, and if she will take a few minutes from her time of telling them that the daisy is not a single flower but a composite bouquet, or that the Jack-in-the-pulpit, though of strange form, is not an orchid, and will, in lieu of these instructions, take up *THE GUIDE TO NATURE* for May and read to them the story of Laddin's Rock Farm, perhaps she may have before her some rich man's son who, when he grows up, will not do as I saw done at Oak Park, in her own state, and put around his property a wire fence with savage instructions on every hand, "Keep out of here." If she induces only one boy to avoid that example she will do more good than if she had counted the segments in the antennæ of forty butterflies.

CORRESPONDENCE AND INFORMATION

A Rattlesnake without Rattles.

Galena, Illinois.

To the Editor:

My brother just the other day shot a large snake about six feet long. It looked very much like a rattlesnake but had no rattles. His attention was drawn by two robins which had a nest about twelve feet up and out on a limb of a cedar tree. They were making all the fuss they could. He went out and found the big snake out on the limb and coiled about the nest. The snake had eaten three of the robins before my brother shot it. The weight of the snake bent the limb down some distance from its natural position.

This may be of some interest to some of your readers.

B. L. BIRKBECK.

The snake in question is one of the Colubers, probably the fox snake, *Coluber vulpinus*. This serpent is colored much like a rattler and might be mistaken for the same. It is, however, perfectly harmless.—Raymond L. Ditmars, New York Zoological Park, New York City.

Water Wears Away A Stone.

Manchester, England.

To The Editor:

I should like to say a few words in regard to the short article that appeared in *THE GUIDE TO NATURE* on page 481, March number. The title was, "Water Wears Away a Stone." As far as I understand it, that is true. I have some knowledge of geology, and will state a mere outline of the coast of England, which in most parts

is very rugged. If we stand on the seashore and watch the breakers roll up, and dash themselves to spray on the cliffs, we can understand that the water's action on the coast must be very considerable. On the east coast of England, there is what is called boulder clay, a kind of soft rock, and it is supposed that the water's action on this rock erodes two yards annually.

Historical traditions say that at one time there existed ports, but there are none to be found now. There is a kind of a hard resisting rock that stands some distance from the shore and indicates the place where the mainland was formerly attached.

The huge masses of limestone that occur inland, take their peculiar forms from the water's action.

This I presume suffices to show that water wears away a stone. The photograph enclosed is the rock on the Irish coast. [Shows rocks much worn.—Ed.]

Yours respectfully,
THOMAS J. HANLEY.

The Swastika for Wisdom, Not Good Luck.

Nirvana, Stamford, Conn.

To The Editor:

I was very much interested in your article containing Mr. Terry's letter about the symbol known as the fylfot. Since Mr. Terry has made such a thorough study of this sign and has books giving its history I feel that here is an opportunity to gain knowledge that I should try to make the most of; for it concerns something I have studied myself and had thought I knew something about,—though really *nothing* much of importance is definitely known about it at all.

But one statement in Mr. Terry's letter is so contradictory to all that I was told by those who were qualified to teach, that I find myself somewhat bewildered. He says that the word (fylfot) is good old English for a sign that is *universally known and used* as the good luck sign. Now I should like to know Mr. Terry's authority for this.

Perhaps if I tell you as briefly as possible just what I *thought* I had

learned about the fylfot (or swastika) you will the better appreciate my bewilderment.

A few years ago I became interested in historic ornament, a study that taught me more valuable knowledge in a month than any school could teach in two years.

I learned that the swastika was used at the very beginning of art—the starting point of ornamentation; just as we count the beginning of the human race from Adam and Eve: that its origin, its meaning, its history are shrouded in mystery; that it is a remarkable fact that almost every country, every nation, even every tribe so far discovered on the face of the globe, has owned it and used it, generally in connection with their religion. It has been found incorporated in the ornamentation of ancient tombs, altars and temples of an age antedating the beginning of history.

It has been considered evidence of man's first effort to adorn and to copy. In the distant past it seems to have been used more as a religious symbol than anything else, and it no doubt was one form of the cross. It was conceded by some who had made a study of the sign, that very *probably* the idea might have been suggested from two sticks that had fallen or been thrown to the ground and accidentally lay crossed. Of course that is all mere conjecture. The first cross being a simple \times or $+$, it seems positively inevitable that a little elaboration should follow; and it is a fascinating study to watch the certain outcome of many designs we use to this day, from the primitive efforts that gave birth to the love of embellishment and began with the swastika. The well-known Grecian border serves as an excellent instance.

It is no doubt true that the swastika is used somewhat as a good luck symbol at present, but I think Mr. Terry overstates the case in saying it is *universally and widely used* as such. I think I am safe in saying that in England and in our own country its adoption as a symbol of good luck is very recent, too recent, in fact, to be at all well known, and I for one think it a

great pity and almost profanation to relegate this ancient and historic emblem to the class made up of four-leaf clovers, wishbones, horseshoes, rabbits' feet, etc., etc. These harmless superstitions are well rooted and have been dignified with age as we of to-day count the years; but to take from the swastika the mystery, the important place given it in history, to so belittle it as to call it an emblem of good luck after the vital things it has stood for through the ages, seems to me a sacrilege. Although little about it can be stated with certainty, antiquarians are pretty much agreed as to its having been a religious symbol, that it was one form of the cross and there is good reason for believing that in some form in both ancient Egypt and Mexico, it symbolized eternity. In more modern times it has been used not a little as one of the symbols of wisdom, and this is not inappropriate, for it gave birth to the art of ornamentation and has been an object of much study and research. There are some who think it had something to do with the secret religious rites of prehistoric times; this may account for its still remaining one of the unsolved riddles of history; it may be the reason the meaning is a secret to this day, as it seems to have been through the ages.

Among all ancient people in India, China, Japan, Egypt, Scandinavia, Mexico and Peru, the swastika appears on almost everything man has attempted to embellish from little trinkets to magnificent edifices, especially among the things that have lain buried for centuries. There were few ancient temples that bore no trace of it, and this fact probably gave rise to the belief in its religious significance. I should be sorry indeed to see it gain in popularity as an emblem of good luck; we have enough of these. Let it remain a symbol of *wisdom*; until we know more of its origin it has served as such for many years, and certainly the wisest of scholars from all over the world have given much time and thought to its study.

Very sincerely yours,

NATHALIE ALEXANDRE.

P. S. Of course you know Buddha taught that to be good one must be wise. To attain to *knowledge* was the duty of mankind. That Universal wisdom would lead to universal brotherhood and happiness. Christ's two "greater commandments" and the golden rule summed up the Buddhistic religion. The swastika in some form is inseparable from almost all Buddhist temples.

How a Crow Breaks Clam Shells.

To one unaccustomed to watching the antics of crows, the incident observed the other morning near Commodore E. C. Benedict's mansion was quite interesting. The aforesaid crow was seen flying in a circle over the rocks by Indian Harbor, something shiny in its bill. This proved to be a soft shell clam which the bird had picked up on the shore. The crow finally dropped the clam, and the person who observed it, went closer, and saw that the clam had dropped on a flat rock. Mr. Crow thereupon dove down to the rock, gave the shell a shake, saw that the clam and the shell were still inseparable, and seized them both and made another ascent, whirled around and dropped the clam again. This was repeated a third time before the crow mounted a tree triumphantly holding the clam, minus the shattered shell, in its bill, and with an appetite for the sea food, it is believed, well-earned.—*Greenwich News*.

Blessed are the men and women whose minds are centered on the acquisition of knowledge; who possess sweet and amiable tempers who cultivate truthfulness and other similar virtues; who are free from vanity and corruption; who enlighten the minds of those who are in ignorance; whose chief delight consists in promoting the happiness of others by the preaching of truth, by generous distribution of knowledge without fee or reward; and are engaged in altruistic work.—*Svami Dyanand*.



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

An Arcadia Lost, and An Arcadia Regaining.

The astonishing story of the sudden and calamitous loss of Arcadia was first told by the local newspapers of Greenwich and Stamford. Copies of these were mailed to all members of The Agassiz Association. The story was further told to our members and other friends in the June number of THE GUIDE TO NATURE. This puzzling action of our multi-millionaire friend has attracted world-wide attention and caused much discussion. Metropolitan newspapers have regarded the affair as good material for sensational paragraphs. Local newspapers have published columns in regard to it. Magazines in all parts of the country have told the news and expressed sympathy for the AA. Letters of sympathy and suggestion have come from everywhere. Quotations from a few of these are published in this number.

Local discussion has been heated and all sides of the question fully considered. The oft repeated question to your President is, "What is at the bottom of all this?" My reply is, "I don't know." I cannot assign all to a mistaken application of friendship, nor can I agree with the other side and admit that our kind benefactor has been actuated by a real grievance unknown to me, or by a fancied one. I do not for a moment believe that he was ever insincere; I do believe that he meant exactly what he said in his letter. It should be explained to those in distant places, in extenuation of Mr. —'s action, that he has been absent from this country for many months and from Sound Beach for many more,

and that he has never really known the essentials of our work. I cherish only kindly feelings for him, believing it all to be a mistake assignable to "personal equation," which, as astronomers say, accounts for errors.

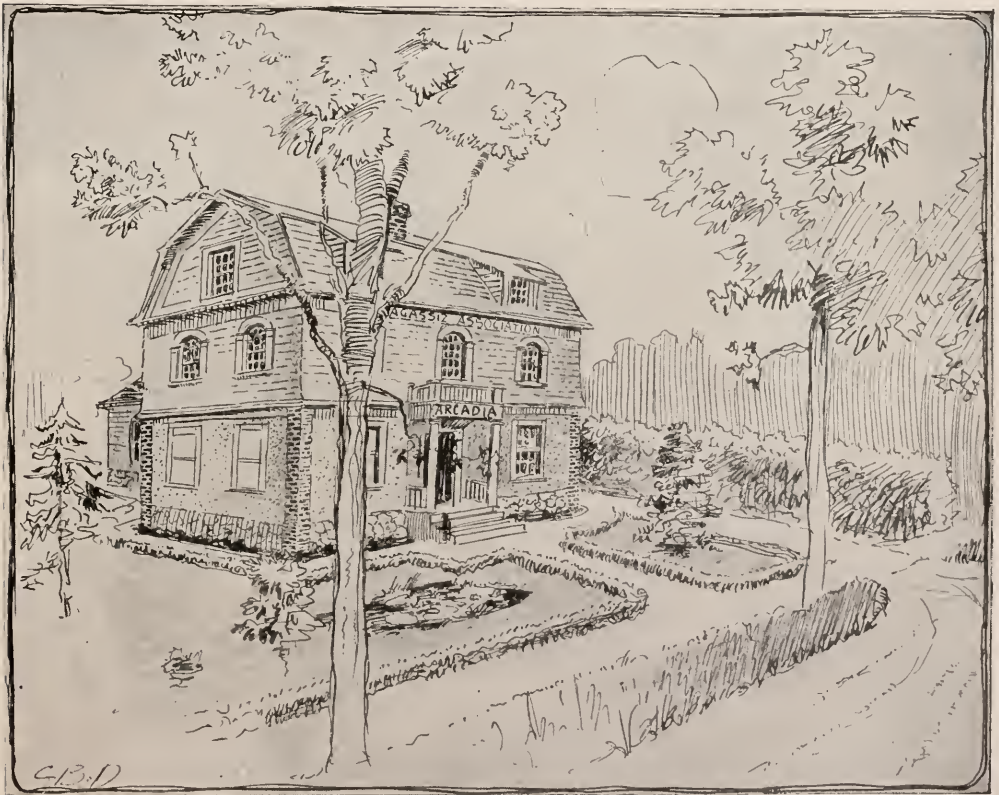
The AA must have a new Arcadia for its working headquarters. The work is far too important to be stopped. We must have facilities worthy of the cause and of its workers.

It should be known to all, as it is known locally, that the loss is not so much in the withdrawal of this Arcadia as it is in the failure to supply the necessary and promised facilities for faithful work. The disadvantages, the perplexities, the increased work caused by the incompleteness of this plant were many. But we could have still borne these burdens, and should have been glad to do so; now we are deprived of the satisfaction of struggling with those difficulties, and of conquering them. But let us have something that shall be rightly fitted to the work. We need \$10,000 for a site and new building. That does not mean that you are requested to pay that sum or half of it. But it means you can be one of twenty thousand to give fifty cents; one of ten thousand to give a dollar; one of four hundred to give twenty-five dollars, or one of only one hundred to give a hundred dollars. Here are some of the "ones" in the list toward the desired amount:

Previously Acknowledged . . .	\$1,144.25
Mr. C. L. Wilhelm, Baltimore, Maryland	2.00
Mrs. Frederick Gotthold, Cos Cob, Connecticut	2.00
Mrs. Vernon Mosher Cady, Charlottesville, Virginia . . .	1.00

Miss Helen Fairbanks, Terre Haute, Indiana	10.00	Mr. Stephen Clason, Sound Beach, Connecticut	3.00
"A Friend"	5.00	"A Friend from Philadelphia"	2.00
Gray Memorial Botanical Chapter	5.00	F. C. B., Sound Beach, Conn. .	3.00
Mr. George A. King, Arlington, New Jersey	5.00	Ayres Brothers, Hoit & Company, Stamford, Conn. .	200.00
Wendell Phillips High School Chapter, Chicago, Illinois ..	1.70	Honorable Homer S. Cummings, Stamford, Conn. .	10.00
Mrs. George Peirce, Sugar Hill, New Hampshire ..	5.00	Mr. H. E. Deats, Flemington, New Jersey	10.00
Morgan Brothers, Sound Beach, Connecticut	2.00	Mrs. Robert Milde, Lewiston, Minnesota	1.00
Dr. Mary D. Hussey, East Orange, New Jersey	1.00	Mrs. Francis Jenkins Danforth, Stamford, Conn. .	100.00
Mrs. George F. Hardy, East Orange, New Jersey	1.00	Total	\$1,520.45
Mr. John H. Sage, Portland, Connecticut	5.00		
Mrs. Mary R. Laudmann, Jamaica, New York	1.00		
Reverend Richard Oertel, Pleasant Dale, Nebraska .	.50		

Mr. Albert Ferris of Sound Beach contributes stone for the new Arcadia. Mrs. John W. Stivers of Sound Beach contributes five loads of finishing cobblestone. Miss A. P. Cobb of Sound Beach contributes gravel.



THE NEW ARCADIA PUBLIC BUILDING.

First Floor: library, reading room and assembly. Second Floor: museum and student's laboratory. Third Floor: experimental work—storage and preparation.



SOUTHEAST VIEW OF ARCADIA—A HOME OF ALL NATURE—THE AGASSIZ ASSOCIATION.

From these buildings nature study in all parts of the world is directed, encouraged and aided. The buildings are to be moved to the new Arcadia grounds, a few rods to the eastward.

There two new buildings are to be erected. These will be a small greenhouse and a building, pictured on page 123 to be used for library, lectures, museum and study. Five Thousand Dollars more will do it all. Will you aid?



WESTERN OR REAR VIEW OF ARCADIA.

These buildings in the foreground have been presented to The Agassiz Association by The United Workers of Greenwich, Connecticut.

Beginning at the left the buildings in the semicircle are as follows: pet house, apiarian laboratory, general biological laboratory, offices, entrance and residence. The small building just beyond the apiary is the post office; at the upper left are stores. New Arcadia is a few rods beyond the row of trees at the upper right of center.

SYMPATHY AND AID.

Quotations from a few of the Hundreds
of Letters from All Parts of
the Country.

C. E. HEMINGWAY, M.D., OAK PARK, ILLINOIS.

God bless you and yours in the good work.

PROFESSOR WM. WHITMAN BAILEY, BROWN UNIVERSITY, PROVIDENCE, RHODE ISLAND.

I am sure that my good wishes are ever with your enterprise. I hope that no untoward event will impede the work of the Association or of *THE GUIDE TO NATURE*, in both of which I take a deep interest.

You are doing good work. Keep at it.—*C. R. Pieffer, Youngstown, Ohio.*

J. HORACE MCFARLAND, HARRISBURG, PENNSYLVANIA.

I have always admired your energy, vigor and high purpose.

MR. JOHN OLIVER LAGORGE, "NATIONAL GEOGRAPHIC MAGAZINE," WASHINGTON, D. C.

I much regret to hear that such an unforeseen happening has come into the onward march of your splendid work, and trust it is but a temporary obstacle.

MR. M. TANDY, DALLAS CITY, ILLINOIS.

Am very sorry you have to make a change—especially so since everything seemed to be going so nicely. I am pleased to help the cause some and am sorry that I cannot make the amount one hundred times as much. I wish you and the AA the best of success and sincerely hope that the clouds will clear away.



THE SITE OF THE NEW ARCADIA.
Only a few rods from the old.



THE VIEW (ON PARK AVENUE) FROM THE FRONT OF THE NEW ARCADIA.

MR. ARTHUR OCHTMAN, COSCOB, CONN.

I would like to express my own sympathy with you in your misfortunes, and enclose a small contribution from my brother and myself.

DR. MARY D. HUSSEY, EAST ORANGE, NEW JERSEY.

It is too bad that any one doing such fine work to make people know and love nature's ways should be bothered by financial troubles. I hope the way may be opened for you to continue the good work.

FAYETTE J. CLUTE' EDITOR "CAMERA CRAFT," SAN FRANCISCO, CALIFORNIA.

We are sorry to learn that The Agassiz Association is to be deprived of what has been its home for the past two years. The society is one that should have the support of the public if only to the end that the memory of its founder may be honored. Mr. Bigelow, its president, has our deepest sympathy. A contribution has been started towards the fitting out of a new Arcadia, and those interested in the Association and the work it represents can find no more fitting time than the present to come forward with such assistance as they can offer.

MISS HARRIET E. WILSON, STORMSTOWN, CENTRE COUNTY, PENNSYLVANIA.

Sorry that you are passing through deep waters of trouble. Hope it will prove a very great blessing and the AA will have a permanent home, built on its own land and not on the shifting sands of a neighbor.

Come to think of it, the AA needs more than words. I will send, inclosed, my mite. This trouble is the very best thing that has ever happened to the AA. The Lord doeth all things well and may He bless you and the AA.

LUTHER BURBANK, SANTA ROSA, CALIFORNIA.

"You have my most hearty sympathy in your misfortune. Am sorry that you have been thus disturbed in your good work. I hope you will not get in the condition that I am, where your expenses run each month \$400 over your income, as month to month passes. It has been a great work to reorganize my business and place it on a commercial basis, and this has not been accomplished by any means, but will be, I hope, in due time. Am doing four men's work each day, Sundays and holidays included, in order to catch up."

The financial difficulties, due to the "great work to reorganize," were the outcome of the Carnegie Institution starting to help him for a short time at the rate of \$10,000 a year, with promise for at least ten years, and probably for life, at that rate. This "aid" was suddenly withdrawn without notice, reason or explanation.

PROFESSOR S. ARTHUR JOHNSON, PRESIDENT FORT COLLINS CHAPTER OF THE AGASSIZ ASSOCIATION, THE STATE AGRICULTURAL COLLEGE, FORT COLLINS COLORADO.

Kindly accept these tardily expressed regrets that the association will have to leave its home. I sincerely hope that arrangements can be made to house the association in some other suitable quarters.

DR. H. M. SMITH, BUREAU OF FISHERIES, WASHINGTON, D. C.

I was grieved to learn of your misfortune, which may prove a blessing in disguise by showing how many people are deeply interested in your work and by stimulating that interest. Efforts such as yours may be interfered with and temporarily embarrassed, but they cannot be permanently suppressed. I therefore look for greatly renewed activity as a result of this drawback.

C. E. PLEAS, CHIPLEY, FLORIDA.

The misfortune of Arcadia was indeed a great surprise to us and if it would do any good I would be glad to write Mr. — a scorching letter but I presume it's a case like the Irishman: "I'd better kape me wind in me."

I sincerely hope the sympathy of some other moneyed person will come to your presence or that influence will be brought to bear upon Mr. — which will cause him to recall his undeserved and untimely action.

If I had his means, Arcadia would be put on an everlasting foundation I wish you all success and hope that a fitting opportunity will present itself in due season.

DR. DAVID STARR JORDAN, PRESIDENT OF LELAND STANFORD JUNIOR UNIVERSITY, STANFORD UNIVERSITY, CALIFORNIA.

This is a word of greeting and appreciation to The Agassiz Association and to yourself. I am sorry that you are to leave your convenient location, but I am sure that wherever you go The Agassiz Association will flourish and will be the source of great good in the lives of young people.

MISS MATHILDA KREBS, PRESIDENT OF THE JOHNSTOWN CHAPTER, JOHNSTOWN, PENNSYLVANIA.

The Johnstown Chapter is deeply interested in the Arcadia and are grieved to learn that it is necessary for the AA to find a new Home.

Enclosed find an order for five dollars. We wish that it could be many times more. May some lover of nature with financial means aid you in finding a new Home to continue your excellent work.

WM. W. ELLSWORTH, SECRETARY THE CENTURY COMPANY, NEW YORK CITY.

We are all very sorry indeed for your troubles. We heartily appreciate your good work for "St. Nicholas," and we know that you are interesting scores of thousands of children in nature. I hope there will be no break in your work.

PROFESSOR M. A. BIGELOW, TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK CITY.

The notice to vacate Arcadia is a temporary inconvenience, but I believe it is no lasting misfortune. The AA needs a permanent headquarters and it needs and deserves an endowment. I know numerous people who appreciate the good work you have been doing, and I hope that those financially able will aid in the important movement for a new and permanent Arcadia. The fact is that in addition to new headquarters you ought to have a fund for paying the expenses of the president of the AA so that he could personally organize and rally Chapters of the Society.



DR. DAVID STARR JORDAN, PRESIDENT OF LELAND STANFORD JUNIOR UNIVERSITY,
CALIFORNIA.

A Trustee and Dean of the Council of The Agassiz Association. See letter top of previous column.
Photograph taken in the grove of the new Arcadia, Sound Beach, Connecticut.

L. I. ARNOLD, EDITOR "COTTON" MAGAZINE, ATLANTA, GEORGIA.

I shall watch with great interest your campaign for a building fund and may a little later assist you in my own small way with a personal check.

MRS. MARY R. LAUDMANN, JAMAICA, NEW YORK.

Such a work of yours should be world-wide and supported by the masses, and I think the action of your late patron will only tend to strengthen your position.

REVEREND HERBERT K. JOB, WEST HAVEN, CONNECTICUT.

I am exceedingly sorry for the change of plan about Arcadia. I hope the matter will be financed on a good basis and will go on to greater success than ever. I am interested in your work and sincerely hope it will be maintained and made permanent.

MRS. VERNON MOSHER CADY, "IVYCROFT," CHARLOTTESVILLE, VIRGINIA.

This dollar would make me happier were it duplicated a thousandfold but where poor teachers start out to build up a little "Arcadia" of their own the plows and mules and practical necessities prove almost overwhelming. It takes a lot of cheery bird songs and bee hums to keep the spirits high at times but we love it all. What a pity you should have this added disappointment.

Your last "Guide" seemed especially beautiful. I take the copy to the bookstore and leave it for others to see that it may be known here, and now that the summer school has opened at the University of Virginia I will take it to the library there and see if the teachers will not get interested.

Mothers especially want something that will help them to know how to **teach nature love** to their children (this sounds funny to us but they have not learned much themselves yet feel the need of it). Could you not meet this need as no other paper has?

I wish I could help. Come to Virginia and start the new Arcadia and I will.

EARNEST F. COE, PRESIDENT AND TREASURER OF THE ELM CITY NURSERY COMPANY, NEW HAVEN, CONNECTICUT.

We are delighted to know that your Arcadia is to be continued and prosper under more favorable conditions. You are doing a splendid work.

MR. GEORGE A. KING, ARTIST, ARLINGTON, NEW JERSEY.

As you must know my feelings in regard to the great misfortune that has befallen the Agassiz Home (Arcadia) I am not going to say anything on the sympathy line. To my mind that which is most needed now is sinews of war and I am sending herewith \$5.00—not much to be sure but perhaps it will help out a little in the moving operation. I only wish I might be in a position to make it \$500 but, as you know, there is more pleasure than profit in art.

A PERSONAL WORD OF ENCOURAGEMENT AND APPRECIATION.

A letter from the Reverend Charles Morris Addison, Rector of St. John's Episcopal Church, Stamford, Connecticut, Published in The Stamford Advocate and The Greenwich News.

"As a trustee of The Agassiz Association and a friend of its President Mr. Edward F. Bigelow, I should like to publicly express my confidence in the character and work of both. In this emergency which has arisen, in this deprivation of the Association's headquarters and loss to the President of his home in which he had hoped to live and work, I believe that all who care for the study of nature, and who approve of the ability and enthusiasm which Mr. Bigelow brings to it, and knows the success which in so many ways has followed his efforts in 'St Nicholas,' in many private and public schools, and in his conduct of the Association since he became its president should rally to his support, and, by sympathy and financial help, enable him to continue his good work. To have it stop would be a real calamity and to drive him from our neighborhood would be a loss which I should personally feel."

W. N. FERRIS, PRESIDENT FERRIS SUMMER SCHOOL, BIG RAPIDS, MICHIGAN.

I am astonished and grieved over the action of —. You have more grit than I have. You are not going to lie down. You are going to keep up the fight. How can you? I do not wish to discourage you. How can Mr. — fail to see the situation? In other words, what possible excuse is there for his not understanding the situation. It is not profitable to argue this feature of the case.

I am anxious to say something and do something that will help you. Now my friend, I haven't time this morning to outline anything. In fact, I haven't the brains to do it, anyway. I am anxious to see your work go ahead. Certainly, it cannot stop where it is. *This country cannot afford to have it stop where it is.* Whether you can afford to go on making tremendous sacrifices is another question.

MRS. ELIZABETH P. BEMIS, EDITOR OF "PRIMARY PLANS," LUNENBURGH, MASSACHUSETTS.

Attract the attention of the public by showing them the utilitarian side of nature study. When people really love nature more they will be willing to work on the soil and one of the principal causes of the high cost of living will be removed.

Mrs. Browning told us in Aurora Leigh that the world must look to the poets to help better social conditions. I believe our country must look to the nature enthusiasts to help make people happy on the soil. Drudgery ceases to seem all drudgery when we can look at it from a poet's and artist's point of view as well as the hard dollars' and cents' side.

You ought to have \$10,000 many times over. Why is it that the Chicago University can get \$35,000,000 and so many things so necessary to the welfare of the vast majority of our future citizens who do not even finish the public elementary schools cannot get the necessities for even a decent foundation? I'll tell you what I think is the reason and that is that so few

leaders with splendid ideas have a money consciousness; if they had they would demand millions as earnestly as President Harper did and get them, too. I'm glad to have universities handsomely endowed but I am looking eagerly forward to the time when more shall be done to help the masses.

MRS. M. T. SADLEIR, PRESIDENT MOUNT BLUFF CHAPTER, ISLAND POND, VERMONT.

We held our regular June meeting last evening, and I presented your letter of May 25 and the article in The Stamford Advocate. We decided to send all the money in our treasury to the fund for a new Arcadia, and only regret that we cannot send more. It is truly a calamity, and one that seems so unnecessary; but we all appreciate and find inspiration in the spirit in which you write, "The AA shall go on; your president will work with more devotion than ever to the cause."

I most sincerely hope that the many friends of the AA will come to the fore with such practical aid as shall make it possible very soon to have a new and better Arcadia.

MRS. GEORGE PEIRCE, SUGAR HILL, NEW HAMPSHIRE.

This is indeed a calamity that has befallen you, and you have my deepest sympathy, with that of all others (I know) of the interested ones. Why a wealthy man should so befriend you, and then withdraw his aid just when it is of the utmost importance I cannot conceive. It seems almost a refinement of cruelty. Would that some other benefactor would arise to take his place! I only wish I had a long purse that I could put my hand in at this juncture to make my sympathy practical. But I will promise you five dollars. If all members of the AA would do the same, it would amount to something substantial; and I trust they have!

You are always optimistic, and in this case I trust your optimism will have its reward.

I hope for the *very best* for you and your interests.

JOHN C. UHRLAUB, A NEW YORK CITY
BUSINESS MAN RESIDING IN GLEN-
BROOK, CONNECTICUT.

(Published in The Stamford Advocate.)

I have seen in your paper that Edward F. Bigelow is obliged to quit the Arcadia buildings in Sound Beach, and would like to know whether something cannot be done to retain so valuable a man as Mr. Bigelow is, for Stamford and its vicinity. I must frankly confess, that when I first met Mr. Bigelow, I thought that his work was merely a money-making proposition, the more so, as I understood that — was behind the Arcadia proposition, and I thought that Mr. Bigelow was getting a good, big, fat salary out of the thing. I afterwards found, by personal investigation, that Bigelow was absolutely sincere in his work and and his undertakings, and know that he not only got not a cent of money out of the whole proposition, but sacrificed his own services and his own money, for benefit of his altruistic ideas. Can it not be possibly arranged that a collection be started, by which a fund could be raised to secure the work of Mr. Bigelow to Stamford and its vicinity? Incidentally, our public schools do not make a specialty of teaching natural history, and I think that the love and knowledge of nature is almost as essential to the bringing up of a child as religion, and I believe that our friend Bigelow has done as much good missionary work as any Methodist minister that ever went out to the Cannibal Islands, to preach the gospel; and if charity begins at home, I certainly feel that Mr. Bigelow's missionary efforts have been of much more lasting good to our neighborhood than any Methodist missionaries ever could spread in some unknown part of the world. I would like to hear from you in this matter and if necessary would be glad to make my contribution towards such a fund as I have suggested.

Hope your magazine will grow and blossom like a green bay tree and delight many thousands.—*H. M. Brozen, Natick, Massachusetts.*

A Letter From an AA Member From Wisconsin who had Come to Arcadia to Study.

[Published in The Stamford Advocate and
The Greenwich News.]

As a lay member of the AA I cannot refrain from voicing a protest against the position taken by Mr. —.

The AA was led to suppose that Mr. —'s generosity in the free lease of the Arcadia property was an expression of real interest in the work of the AA, in sympathy with its standards and traditions, and the result of a desire to aid in the most direct and practical way by giving it a definite and permanent home wherein to develop and from which to extend its usefulness. Instead what do we find? If we understand the English language, it must be this—that Mr. —'s free lease of the Arcadia property was designed simply as an advertised bid to the public for its patronage with the expectation that by this exploitation Dr. Bigelow would be able to secure a comfortable salary for himself and family. After two years' experiment (!) with this astonishing project, he decides to throw up the job, to speak in common phrase, and invites Dr. Bigelow to vacate the premises and, in short, move on to fresh fields and pastures new and dismiss the AA with the pleasant reminder that it has no assets and can conduct its mission from any post office address. Oh! indeed! Can it? What a simple solution. Mr. — has evidently not yet discovered that the AA was not founded for the purpose of doing business. Still more astounding is his entire failure to understand the ideals and purpose of the Bigelows. Has the faith in altruism passed from the earth? Has the frenzy of commercialism so besotted the brains of men that a life devoted to the deepening of human knowledge and human consciousness makes no convincing appeal? Has Mr. — nothing to offer this group of zealous educators and missionaries but a business opportunity?

As a student at Arcadia, it has been my privilege to pass in and out of the laboratory and editorial offices as a

friend and co-worker. No word from me, a stranger in New England, should be needed to emphasize the value of such a family to the community in which they live.

Dr. Bigelow is a man wholly concentrated to the highest things—a teacher, a scholar, a philanthropist, a man of letters and, above all, a reverent interpreter of the universe as the living word of the living God. Fortunately indeed is the community that calls him its own.

FRANCES BLAKELY.

Publishing Assistance.

We are especially grateful to the following newspapers' kind and liberal notices: "The Stamford Advocate" and "The Stamford Bulletin," Stamford, Connecticut; "The Greenwich News" and "The Greenwich Press," Greenwich, Connecticut; "The World," "The Herald" and "The Times," New York City; "The Baltimore Star" and "The Baltimore American," Baltimore, Maryland.

The following magazines have rendered aid: "Bird-Lore," Harrisburg, Pennsylvania; "Cotton," Atlanta, Georgia; "National Geographic Magazine," Washington, D. C.; "The Cat Journal," Rochester, New York; "American Bee Journal," Chicago, Illinois; "School Science and Mathematics," Chicago, Illinois; "Photo-Era," Boston, Massachusetts; "The Collinwood News," Cleveland, Ohio. [List of others later.]

Building Notes.

The land for the new Arcadia was purchased from Ayres Brothers, Hoit & Company, Stamford, Connecticut.

The surveying for foundations, etc., has been done by Harold A. Parsons of Stamford.

The contract for the mason work has been made with William A. Hawks of Sound Beach.

Are you interested in inviting English sparrows, to visit some other locality? Try tying strips of white rags plentifully around places especially attractive as nesting-sites.

Contribution of Arcadia Buildings.

To the Trustees, Members and Friends of the AA:

I gladly inform you that the Arcadia buildings are ours. The site and buildings were gift deeded by the owner to The United Workers of Greenwich (Connecticut), a charitable organization. That organization has very kindly donated the buildings to The Agassiz Association. Could anything more strongly elicit our gratitude or more emphatically place approval on our work and cause? I am sure you all will unite with me in thankfulness to The United Workers. In accord with our rules that organization has been enrolled on our books as "Patron," and our Honorary Certificate has been forwarded. These buildings will be moved to the new Arcadia grounds, where work upon the new building is also in progress.

To complete the new building, to construct foundations for these, to move them and to put them in good condition will require about \$5,000 more. Will you please contribute, even if only a small sum, to that amount?

Now, right now, is the time for the AA, after thirty-six years of efficient work under various difficulties, to come to its own in a complete, well equipped establishment.

Locally and from distant places unqualified approval has been placed upon our ideals and their efficiency. Isn't \$5,000 a most moderate request in view of our effectiveness and great extent of work for over a third of a century?

Gratefully and earnestly yours,

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THE GUIDE TO NATURE

AUGUST

FAIRFIELD FARMING
NUMBER

Vol. IV. No. 4

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, Under Act of March 3, 1879

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We may here mention our connection with the World's Columbian Exposition, the Brooklyn Park Department, the Arnold Arboretum, Boston, and many private parks in and around Greenwich.

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Everybody approves or, at least, everybody should approve of a conservation of our forests, and all nature lovers certainly approve of the use of trees and shrubs for decorative purposes. But it often occurs to us that Arbor Day methods as practiced in our schools are not good, and that

schools. In other words, the too common practice is to transplant a strong tree from its natural environment in the woods and put it out in a locality not adapted to its needs, where the sunlight, the moisture, the gases in the air, the nourishment in the soil, differ from those to which the tree has been accustomed in its native habitat, and where it must struggle for its existence



THE ATTRACTIVE ENTRANCE TO DEHN & BERTOLF'S NURSERY.

much of the advice that we receive in regard to the setting out of trees is equally worthless.

When we moved here and took possession of the premises, the place, so far as trees and shrubs were concerned, was barren. The advice of several friends was, "You can go to Mr. Blank whose woods are full of trees, and he will give you all you want free of cost." To accept Mr. Blank's intended kindness would have been pernicious practice, but it would have been exactly the Arbor Day method of most of the

against possibly overwhelming odds. Besides this, our New England woods need every tree they have. The proper place to which to go for a tree or a shrub is a nursery where young trees and shrubs are cultivated. The schools will never carry out the best thought regarding Arbor Day until the pupils have been taught to raise trees from seeds. We want tree planting, not the mere setting out of trees. We firmly believe that one of the most important factors in modern nature interests is a



THE DEHN & BERTOLF HOMESTEAD IN THE NURSERY.

well equipped nursery. Let us cry conservation all we may, let us prevent forest fires, let us cultivate public sentiment until no one will be guilty of the vandalism of flaying a graceful white birch, nor of emulating tramps by building a bonfire at the base of a noble oak.

On the new Arcadia grounds is an oak tree, grand and patriarchal, that has only the shell of a trunk because of the repeated fires that have been built within it. Only a few rods away is a white birch some six inches in diameter that far up its trunk has been

flayed alive. Can there be a more pitiable sight? Can there be more emphatic proof of the need of the work that The Agassiz Association is doing? We want more tree lovers, we want more people who will respect the rights of individuality, yes, even the sacredness of a grand, old tree and the promise of even a young and thrifty sapling.

Trees, shrubs and grass may form commendable decorations for any home, but to obtain them, do not despoil the woods nor put the trees themselves in jeopardy. Let the coun-



A BUSY SCENE NEAR THE HOMESTEAD.



AT ONE OF THE EXTENSIVE AND ATTRACTIVE STREETS IN THE NURSERY.

try have every tree now growing well in the woods and go to the nursery for aboreal ornaments and for Arbor Day supplies. To furnish them is the special business of the nurseryman, but because it is a business, because it is done efficiently, it is none the less an incentive to nature study, nor even to missionary work. The more our Association can exploit the attractions and advantages of a good nursery, the more we are furthering the principles of Louis Agassiz in the precept that will bear frequent repeating. "Study nature."

For the study of trees and shrubs in their youth, the nearest nursery to Arcadia is that of Dehn & Bertolf, Greenwich, Connecticut. We should like not only our local friends but those in distant places to know of this enterprising firm, situated in the very heart of the finest residential section of the Connecticut shore. Hundreds of magnificent estates in Greenwich and vicinity owe much of their beauty to this nursery.

The proprietors have had an ideal experience in the cultivation of trees



THE YOUNG PLANTS AND TREES HAVE CAREFUL ATTENTION.



AMONG THE THRIFTY YOUNG TREES.

and shrubs, in landscape work and in the care of parks. They came to this country in 1888, from Germany and Switzerland respectively, and even then were well trained in landscape work. After securing positions in commercial places and also in Chicago's Park Department, they were in 1890

appointed foreman and landscape gardeners at the grounds of the World's Columbian Exposition in Chicago, which position they held till January first, 1894. Two months after the closing of the Exposition a call from the superintendent brought both of them as landscape gardeners to the Brooklyn



DEHN & BERTOLF'S SPRAYING APPARATUS ON THE HIGHWAY.

They do work of this kind on order.



IN A SECTION OF THE FLOWER GARDEN.

Park Department, where they helped to lay out many parks and squares throughout the city. After four years' service in Brooklyn, Mr. Dehn took a position with Frank Squire, formerly Park Commissioner of Brooklyn, to lay out his private grounds in Greenwich. He had hardly finished this work when he accepted a position with Professor Sargent as foreman at the Arnold Ar-

boretum. After doing extensive landscape work at the arboretum he returned to Greenwich.

Mr. Bertolf, after five years in the Brooklyn Park Department, took a position as gardener with Frank Squire, resigned in 1899, then with Mr. Dehn started a nursery in Greenwich, on North Street near the County Club.

As both were well acquainted with



A BEAUTIFUL CLUMP OF "MULLEN PINK."

landscape work and with raising and caring for trees, shrubs and evergreens, success has been theirs and today they have a nursery stock that is clean, healthy, strong, and free from all disease, so that it is readily transplanted and grows well, as many private places laid out and planted with their stock will show.

But things are better than words and the camera shows our readers far better than words can tell, what may be seen at this interesting and well equipped nursery.

On my visit I found the proprietors personally interested in the things that they are cultivating. They love them, in fact, treat them as one would treat one's pets, and after all "love is the greatest thing in the world," though it may take the form of business application in the growing of trees. Only thorough lovers of plant life could produce the results that Dehn & Bertolf have produced. Everything in the nursery is carefully cared for and is free from all blemish of fungous pest or insect enemy.



A SECTION OF LUXURIANT SILASTA DAISIES.



AMONG THE BABY RAMBLERS.

The nursery is on North Street, near the Fairfield County Golf Club, and can easily be reached from the New York, New Haven and Hartford Railroad, or from the electric cars from Port Chester and Stamford. We urge all lovers of growing plants to pay it a visit.

A Natural Phenomenon!

The teacher was giving the geography lesson, and the class, having traveled from London to Labrador, and from Tressaly to Timbuctoo, was thoroughly worn out. "And now," said the teacher, "we come to Germany, that important country governed by the Kaiser. Tommy Jones, what is a Kaiser?" "Pleas' em," yawned Tommy Jones, "a stream o' hot water springin' up an' disturbin' the earth!"

I want to express my appreciation of the high character of the material you are presenting in comparison to some other journals along similar lines that come to my table. Surely there is a great field for the AA and its official journal. I only wish that I could induce ten thousand people to read it regularly.—*Frank C. Pellett, Atlantic, Iowa.*



"The so-called abandonment of farms of New England is to be the salvation of its agriculture, for it means the abandonment of old ideas."

Arcadia

The problem of our life is not yonder: it is here. The seeking of truth in fresh fields and for the love of it, is akin to the enthusiasm of youth. Men keep young by knowing nature. They also should keep true. One of the New Sayings of Jesus is this: "Raise the stone, and there thou shalt find me; cleave the wood, and there am I."—*L. H. Bailey in "The Outlook of Nature."*





THE GRAND OLD HOMESTEAD—RESIDENCE OF MR. L. H. LAPHAM AT HIS WAVENY
FARM, TALMADGE HILL, NEW CANAAN, CONNECTICUT.

The return to the simple has already commenced
Among the various ways of diverting the mind from the cares
of business and professional life, farming offers possibilities
not possessed by most other forms of so-called recreation.—
E. A. Jones.

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

AUGUST 1911

Number 4



Fairfield Farming by Modern Methods

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



F all the farmers in this Fairfield County as it was fifty years or so ago, and if most of those of the present day, could or would visit Mr. L. H. Lapham's Waveny Farm at Talmadge Hill, they would be surprised to find farming, in what is practically a suburb of New York City, that in extent, systematic method and modern equipment rivals or at least equals the best farms of the west.

Mr. Lapham is an eminently successful business man of New York City, extensively interested in oil, leather and other affairs of transportation, commerce and manufacture. But at heart he is a farmer, owning many

acres in the west, as well as this home farm in the east, where he happily combines pleasure and business. As I have wandered over the place watching its varied operations, more and more have I been impressed by the fact that such farming is not only pleasure and business, but pleasure depending upon good business methods. All operations are perfectly conducted, and are therefore always a joy. In the management of the farm the proprietor employs the most commendable business methods. Not a phase seems slipshod or inefficient, and an important factor is that he started right, by putting at the head of the establishment a thoroughly trained and college-trained, scientific farmer, Mr. E. A. Jones, who had pre-

viously had extended experience in scientific institutional work. Waveny avoids the principle so strongly opposed by this magazine, but often per-

of this, or of that, pay off the mortgage, send the children to college, build a more luxurious city home, and have a fine pergola or a thoroughbred bull.



A BEAUTIFUL FIELD OF WHEAT.
And it is in CONNECTICUT, at the Waveny Farm!

niciously advocated by some enthusiastic suburban or country publications, that the city man by his unaided efforts can in his spare time by keeping a few

Farming is an art—a profession. Not every one can be a successful farmer, even if backed by plenty of money. The numerous advertisements in such



THRESHING GRAIN ON AN EXTENSIVE SCALE AT WAVENY FARM.

publications of estates for sale are at least circumstantial evidence of the truth of this assertion. But seeing is better than describing, and I submit to the reader's attention the things seen on this model, modern farm, as portrayed by the camera in the accompanying illustrations.

At my request, Superintendent Jones

of the Wavenny Farm has supplied the following:

Suggestions in Fairfield Farming.

BY E. A. JONES, WAVENY FARM, TALMADGE HILL, NEW CANAAN, CONNECTICUT.

Sociologists recognize three stages of evolution: First the simple, next the complex, and finally a return to



MR. E. A. JONES'S OFFICE—THE BUSINESS HEADQUARTERS OF THE FARM.

the simple. We are now in the complex stage, an era of trusts and labor unions and other unnatural conditions which deaden individual effort. But the return to the simple has already commenced. "Near to nature" and "back to the land" articles occupy considerable space in nearly every paper and magazine, and ruralism is being exploited as never before. Among the various ways of diverting the mind from the cares of business and professional life, farming offers possibilities

utility. For example, is there anything more beautiful at blossoming time or more remunerative at harvest than a well cared-for apple tree? The triple advantage of flowers, fruit, and shade is possessed by this as well as by numerous other kinds of trees, which might well take the place of many so-called ornamentals. Much landscape work, especially in former years, has been laid out in such a way as to call for constant attention throughout the summer. Unless the artificial standard set



PICKING IMMATURE APPLES TO PREVENT THE BRANCHES BREAKING DOWN WITH THEIR OVERLOAD.

not possessed by most other forms of so-called recreation. Not the least of these advantages is the fact that on a properly managed country place there is greater or less financial return. And so, by resting the pocket-book, the mind is also rested.

While on the larger estates costly shrubs and rare exotics are often grown, we may obtain nearly as good effects by using our native trees and plants. Many of these also possess

by the landscape gardener be kept up, the effect, like diamonds on the hand of a washwoman, appears incongruous. In the development of country places nature is our best instructor, and the ordinary farm crops, such as wheat, rye, corn, grass and fruit trees are quite as beautiful, in their way, as expensive formal gardens.

Many people have an idea that any soil which is classed as exhausted is unworthy of consideration from an ag-



MOWING THE HEAVY CROP OF ALFALFA.

ricultural standpoint, but the contrary has been proved in numerous instances. A few years ago the soil on this farm was so stony and infertile that we could not even raise a crop of rye. Yet we have so improved it by using lime and fertilizers, and by plowing under

green crops to add humus, that this year we raised thirty bushels of wheat to the acre, despite the drouth. As the average for the United States is 14.1 bushels per acre, we feel well repaid. In addition, the fields are now in excellent condition for permanent grass

LOADING GREEN ALFALFA.
(Four crops in one season.)



IN THE GARDEN.



LOADING HAY BY MACHINERY.



PUTTING HAY INTO "WINDROWS" BY A ROTARY RAKE.

land. Six years ago baled hay had to be bought in March to feed the stock. Now, while there are several barns on the place, all the straw and half the hay has to be stacked out-of-doors. After the ground has been thoroughly prepared, a good grass yield can be maintained by heavy seeding of early grasses which mature before the dry season sets in, and by the application

of a moderate amount of fertilizer in the early spring.

Corn is raised here for summer feed, for the silo, and for husking. After two years of treatment we produced 112 bushels of shelled corn to the acre on one of our larger fields. The average yield for the United States 27.4 bushels.

Alfalfa, although a comparatively



STACKING FORTY TONS OF HAY BY A HORSE POWER HOISTING "FORK."

new crop, has proved a marked success. We have not attempted to cure it for hay, but as a summer food for cattle we have found it most valuable. Already this summer we have cut two crops, and at this writing have started upon a third. If the weather should be favorable we shall take off a fourth

crop. The total yield for each year has been somewhat over twenty tons per acre.

In these days of high-priced, yet inefficient farm labor, it is necessary to have an equipment of modern machinery, which adds to the joys of farm life by lessening its drudgery.



Bird Studies on the Waveny Farm.

BY HAROLD E. JONES, TALMADGE HILL,
CONNECTICUT.

"The sun is bright,—the air is clear;
The darting swallows soar and sing,
And from the stately elms I hear
The bluebird prophesying spring."

Like many other nature verses, this stanza by Longfellow is somewhat inaccurate, for we are not apt to hear "the darting swallows soar and sing" until the vernal season has really arrived. And in this locality, at least, the bluebird cannot be regarded as a true prophet. He is with us the year 'round, and oftentimes begins singing in early February, long before winter's icy grip is permanently shaken. Despite this unreliability as a harbinger, the bluebird is a universal favorite among country people. With the beauty of a tanager, the gentleness of a thrush, and the industry of a woodpecker, he seems a veritable paragon, and the New England farmstead which lacks his graceful presence is quite incomplete.

Ingersoll states that out of seven nestings not more than one brood of birds can usually be raised to maturity. Birdland tragedies are the frequent cause of grief among roaming naturalists. Last May and June, when I had dozens of different nests on my list, some fresh mishap had to be recorded

almost daily. The brown thrasher's twig lattice was emptied by some wandering skunk or weasel; a villainous cat found the redwing nest; crows gorged themselves on choice young robins; rainstorms dashed to earth the chippies' hopes—and so I might continue down the black catalogue of avian misfortune. On account of these manifold enemies, most species of birds find it quite impossible to increase. By using a shotgun we may eliminate some of the enemies in any vicinity, but the augmentation in local bird life cannot be immediately noticed,—except in certain cases which I shall now define. There are many mysteries of evolution still unsolved. Why the bluebird should prefer to nest in hollow limbs, while all his near relatives of the thrush tribe build open nests, is a problem quite equal to the Sphinx's riddle. But this peculiarity is a fortunate one, since we may utilize it for our own benefit: *By erecting nest-boxes a farmer may increase the number of bluebirds in his vicinity several hundred per-cent.* This is possible because a properly constructed box will exclude all those enemies to which the birds of open nests are subject. At least six out of seven young bluebirds hatched in such boxes will live to maturity, while, as we have seen, the ratio is only one out of seven with other birds.

Last winter I devoted considerable time to the manufacture of bird houses. My carpentry was not above reproach, but after a little practice I was able to turn out a rain-proof, cat-proof box with the minimum of labor and ex-



YOUNG BLUEBIRDS IN A BOX ON A POST IN THE VINEYARD.

pense. Five shingles, an old board five or six inches long, and some lath nails, were the only materials needed for each box. In addition, I collected any suitable tin cans; carbide cans, varnish cans, and syrup cans were desirable. During February a circular saw was in operation near my home, and I had a hollow limb from an old apple tree cut into eight sections, each about a foot in length. On each one I fitted a top and bottom (the former was rain-tight, but could easily be removed) and cut entrance holes with a coping saw. Before winter was over I had a motley collection of about forty shingle boxes, tin cans, and hollow limbs, and I then

proceeded to fasten them up in the orchards and shade trees of the estate.

"Them boxes will be fine for the sparrers to nest in!" an old farmer sarcastically remarked. "There won't a bluebird come near 'em." But I had already provided for the sparrows. With poisoned wheat and a .22 rifle I had destroyed more than a hundred of these pests, and only a few remained in the vicinity.

HOUSE TO LET!

NO SPARROWS NEED APPLY.

This sign was not actually put on each nesting place, but the bluebirds needed no invitation to occupy, and the few surviving sparrows always kept at a respectful distance; no doubt the wary fellows believed that each box and can and hollow limb was another of my diabolical contrivances for their destruction. So the bluebirds were left to choose their homes in peace. How eager and delighted they were! Like their human prototypes searching for a "flat" they hurry from box to box, trying to decide which is best. The handsome male perches near by, singing joyously, while his mate explores the prospective nesting site; presently she flies out with delighted cries, and he takes her place inside. After due deliberation, their home is selected, and the female brings in nesting material. Usually she merely weaves a lining of fine grass, but in one box I found about two quarts of tightly compressed material, including the following varied articles: black horsehairs, feathers, leaves, straw, hay, twigs, fine brown hairs, rootlets, weed stems, cherry stems, maple seeds or samaras, bark from cedar beanpoles, cord, and pine needles! The first nests were commenced April 4, and the last youngling of the last brood flew out August 8. During the three months inclusive forty-seven young bluebirds were successfully reared on the estate (all in the artificial nesting-places), while the year before only nine or ten had been raised. This is certainly a gratifying increase.

But bluebirds were not my only tenants. April 11 a pair of starlings

commenced to investigate a hollow limb which I had erected in the spruce tree near my study window. The entrance hole was not intended for such large birds, and their contortions in squeezing through were ludicrous to behold. They decided to occupy, however, and carried in a prodigious amount of straw and other nesting material. The clutch of five greenish-white eggs was soon completed, and about two weeks later the blind and helpless younglings hatched out. I now had an excellent opportunity to ascertain the starling's food habits. The nest was only about twenty feet from my window, and by watching through the closed blinds with a powerful glass I made many interesting observations. The young birds were incredibly voracious, and they managed to devour at least two hundred and fifty large insects daily; the mother bird made from eight to twenty-five visits every hour, obtaining the food

(wholly insectivorous) in meadows and lawns nearby. Her inconstant mate had deserted early in the game, and she was therefore compelled to do the work of two, hustling every minute of her fourteen hour day. It has often been asserted that starlings are harmful. My observations would seem to indicate the contrary. During May we sustained a tremendous infestation of "June-bugs," more properly termed May-beetles. They attacked the ash trees, poplars, and oaks, defoliating many of the latter. These destructive insects would sally forth in huge armies every evening, and buzz around until dawn, when they mysteriously vanished. I could never find their daytime hiding places, but my neighbor starling was more successful, and unlucky May beetles formed a large part of her bantlings' diet. She also fed them large caterpillars, which I could not identify as any specific species, wireworms, cabbage butterflies, etc. Five additional broods were raised in other hollow limbs—twenty young starlings altogether. Now, if one brood ate two hundred and fifty insects a day (a conservative estimate) the six broods devoured fifteen hundred insects daily, or thirty thousand insects in the twenty days before they reached independence. Of this astounding number, practically every one was harmful; no beneficial insects, unless possibly a few predaceous beetles, were ever taken. Even the most skeptical person cannot deny that the destruction of twenty or thirty thousand harmful insects in any vicinity will fail to have a marked beneficial influence on garden and field crops. And this usefulness does not end when the starlings attain maturity. Since June 1 flocks of from a dozen to two hundred of these birds have been constant visitors on the farm. We had over thirty acres devoted to corn, oats, and wheat, but the starlings never touched these grains, nor have they injured any fruits nor vegetables. They flock on the lawns, and in the pastures and rowen fields, taking only insects and perhaps weed seeds.

Bluebirds are equally as useful, if not more so. They are wholly insect-



BABY SONG SPARROWS IN A NEST ON THE GROUND.



A BROWN THRASHER'S NEST.

tivorous, except for a few wild fruits taken by the adult birds. A very good way to attract them in winter is to plant Virginia creeper, or, better still, a common imported vine known as *Ampelopsis veitchii*. This latter grows luxuriantly on various buildings of the estate, and its abundant, persistent berries form a great attraction to hermit thrushes in the autumn, and to bluebirds and robins throughout the winter. Until this year no wrens have nested on the farm. Last May a pair decided to occupy one of the orchard boxes. They carried in a large amount of twigs and white fibrous substance from cocoons, but before any eggs were laid a pair of bluebirds appeared on the scene and dispossessed their smaller neighbors. The wrens were not discouraged, however, and raised a lusty family in another nesting place.

Birds usually return to nest in the same vicinity where they were hatched. Next year, with a greatly increased

number of nest-boxes, we shall have at least twenty pairs of bluebirds, a dozen pairs of starlings, and several pairs of chickadees and wrens domiciled on the estate.

The experiment has proved a success, and might profitably be repeated on other farms.

The Food of the Barn Owl.

BY THOMAS H. JACKSON, WEST CHESTER,
PENNSYLVANIA.

Most of our birds of prey, while generally feeding on animals injurious to man's interests, do not always discriminate. Even the little screech owl, that has been held up as model of innocence, is accused of killing and eating young robins, and has, therefore, been outlawed in the neighborhood where the crime has occurred. But I believe that no such charge has been laid at the door of the barn owl.

Recently I visited a large black oak tree that stands alone on a hillside, and has for many years furnished a secure home for a pair of barn owls, that annually raise a brood of young in its cavity sixty or more feet from the ground.



SKULLS OF MEADOW MICE.

Around the base of the tree lie thousands of pellets of bones and of hair which these birds have ejected from the nest. In these masses are skulls, nearly all entire, of the common meadow mouse that is so injurious to grass roots as well as to the bark of young trees in the

winter. I searched carefully through the pile of debris but failed to find a single feather or any other part of a bird.

Proofs like this are convincing and should not fail to secure for the barn owl such protection as it undoubtedly deserves.

THE CAMERA

Noteworthy Trees.

It is the odd that unfortunately interests most people, as the scope of life is not large enough, nor is time long enough to enable us fully to appreciate even some of the wonders of the commonplace. Our circumscribed environment, even of those of us who are most enthusiastic for the commonplace, makes necessary a special interest in the unusual and the odd. We all take

for granted the ordinary, regular things done by human beings, by other forms of animal life and by plants. The newspapers too chronicle the unusual.

So it is in nature records. We note mostly the things that are whimsical or bizarre. But to observe, record and love the common things of nature does not mean the recording of the trite. The writer of even the "best selling" novel never begins his book by recording the English alphabet.

Let your camera as well as your notebook mean something that is really worth something. Don't give us the camera alphabet. We know that. Let the thing shown have news in it. To my mind a picture should express something out of the ordinary; it should have a story to tell. Hundreds of photographs that reach this office are beautiful and well made, but no different in subject from millions equally good that might be taken. There are thousands of abundant things that are not common. We would welcome a photograph of some form of animal or plant life of which there might be myriads in existence yet all practically unknown to our readers. There are hundreds of beautiful trees, but the only reason for ever photographing any one of these is its unusual beauty. The strange things that trees do are worthy of record in our magazine on exactly the same principle that unusual events in the lives of human beings are worthy



UNITED TREE TRUNKS.

Photograph by Mrs. R. C. Fahrion, Stuart, Iowa.

of newspaper notice. This doctrine of using the camera or the notebook on the unusual does not invalidate our theory and fundamental belief in the beauty of the commonplace. Say what we may it is always the unusual that attracts our attention to the usual. The brook that flows quietly through the meadow never attracts our atten-



THE UNION TREES.

Photograph by Frank Grafton, Chester, West Virginia.

tion so forcibly as the stream that dashes over a precipice, because meadow brooks are more numerous than waterfalls. If waterfalls were as common as brooks, and if a runnel in a meadow were a rarity, we should say by all means turn your camera to



THE TWIN OAKS.

Photograph by Milo Leon Norton, Bristol, Connecticut.



A CURIOUS TREE TOP.

Photograph by J. H. Barnett, Hartland, New Brunswick.



A TREE TOP BRACED AS AN OLD MAN WITH A CANE.

Photograph by Frank Grafton, Chester, West Virginia.

the brook in the meadow. So it is with any phase of nature.

These thoughts have come vividly to mind as I have examined a mass of photographs of trees sent by our camerists. From these I have culled a few that tell a story of remarkable interest.

United tree trunks are not especially rare but examples so good as those sent by Mrs. R. C. Fahrion, Stuart, Iowa, and by Mr. Frank Grafton, Chester, West Virginia, are really remarkable. In these specimens there is not a vestige, as in most unions that we



A CURIOUS LIVE OAK.

Photograph by Ellen Barnes, Battle Creek, Michigan.



HOW DID IT GROW TOGETHER?

Photograph by Harry Staley, Harrisonburg, Virginia.

see, of a limb that has grown from one and gradually become engrafted on the other.

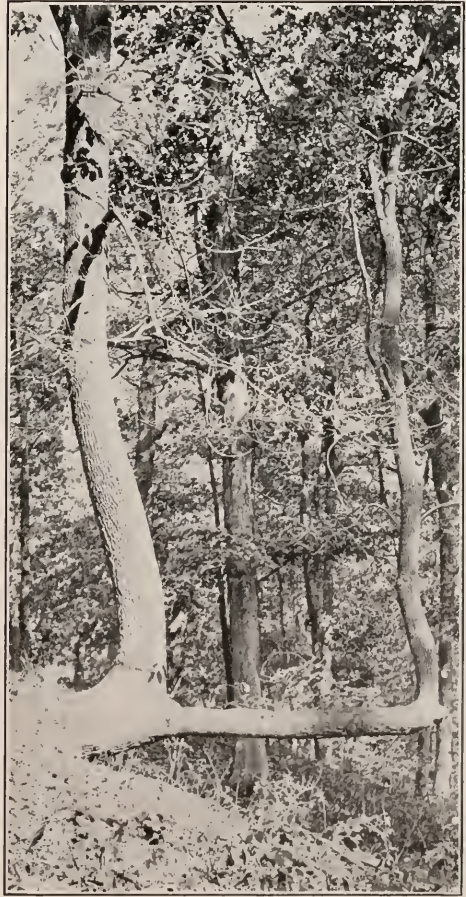
The twin oaks sent by Mr. Milo Leon Norton, Bristol, Connecticut, are extremely picturesque and for that reason we publish them. The projecting branch at the left leads one to suspect that possibly the limb has grown across the other tree, or rather that the tree at the left has grown around a limb from the one at the right. It is possible that all tree unions are formed in this manner. Or perhaps some "twins" may be the result of an aerial root that has branched downward to form another root and upward for another trunk. A limb from an adjacent tree becomes engrafted into the other tree, the projecting part is lost so that not a vestige remains. The especial interest is in the fact that such circumstantial evidence has been lost.

Of the beautiful photograph of the beech tree union, Mr. Grafton writes as follows:

"I am sending to you by this mail the picture of two beech trees which have been joined together by a limb that has grown from one tree into the other. One tree is eighteen inches in diameter, the other twelve at the point of union. The smallest diameter in the limb which joins them is eight inches. The distance from the ground to this limb is ten feet. I have shown this picture to several old woodmen, who say they never saw anything like it."

Mr Grafton also sends a photograph of a remarkable tree top braced as an old man might steady himself with a cane. Of this Mr. Grafton says:

"This elm is on the road between



A NATURAL U.

Photograph by Carl C. Donaldson, Richmond, Ohio.



A BOUQUET TREE GROWTH.

Photograph by C. R. Smith, Portland, Oregon.

Irondale and Wellsville in Jefferson County, Ohio, and near the mouth of block house hollow famous in Indian times. It is on the farm of T. L. Jarvis, who cleared the ground around it but could not find the heart to destroy this unique tree. It grew to a height of six feet when it became bent and grew out for several feet, when a branch on the lower side grew down and took root in the ground. This is considered one of the queerest freaks among the trees in Jefferson County."

Of curious tree tops, that recorded by Mr. J. H. Barnett, Hartland, New Brunswick, Canada, is entitled to first prize. Of this Mr. Barnett writes:

"The tree is that commonly known as 'roundwood.' Nobody seems to know just what caused the peculiar growth. The trunk grew straight for awhile and then suddenly began to branch in the odd way shown in the photograph."

Another remarkable opening through a tree is that photographed by Mr. Harry Staley, Harrisonburg, Virginia. One can easily see how the tree divided at the bottom into two branches, but how did they get together to make that perfect union? Mr. Staley writes:

"Let me say that the tree is exactly

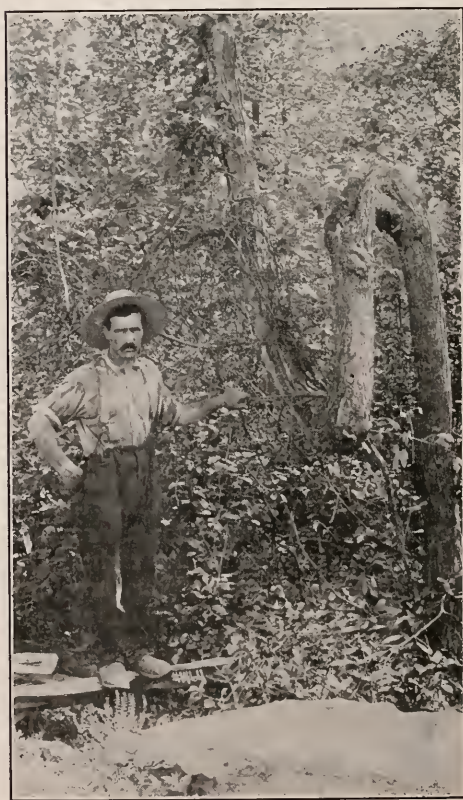
what it appears to be in the photograph—a tree with two distinct trunks united, each alive and each with perfect bark."

A photograph from Mr. Carl C. Donaldson, Richmond, Ohio, represents an episode in tree life that is readily explained, yet has a certain attractiveness not only in itself but in the picturesque and beautiful surroundings.

Mr. C. R. Smith, Portland, Oregon, sends a photograph of a tree growth that suggests a bouquet in a vase, a clump of shrubbery which has grown out of a tree stump.

For photographs of crooked trees, Mr. Francis G. Couch, Andersonburg, Pennsylvania, is entitled to high honors. I do not recall ever having seen a large tree with so great a crook as the one photographed by Mr. Couch. He writes as follows:

"Some time ago I noticed in THE



A REMARKABLE LOOP.

Photograph by Francis G. Couch, Andersonburg, Pennsylvania.

GUIDE TO NATURE a picture of a crooked tree. Accompanying this letter you will find a photograph of one that I believe is still more crooked. This is a maple that was broken down years ago and later started again to grow upward."

Of all gnarled, fantastic, picturesque and intermingled growths the photograph from Ellen Barnes, Battle Creek, Michigan, surely excels. She writes as follows:

"I am sending you a photograph which I recently obtained near Tarpon Springs, Florida. The large tree with spreading branches is a live oak, so common in that vicinity, and the tall tree which has grown solidly to the oak, is the long leaf pine.

"We know that there are numerous instances in which trees of the same kind have grown together, but I am told that instances are rare in which trees of unlike species are solidly grafted as they are in this instance. The spreading branches of the live oak have assumed fantastic shapes not fully shown in the picture. The trunk of each tree is about fifteen inches in diameter. So many tourists come to gaze upon this natural curiosity which is beautiful, as well as curious on account of its peculiar shape and healthful growth, that seats have been provided for the accommodation of the visitors.

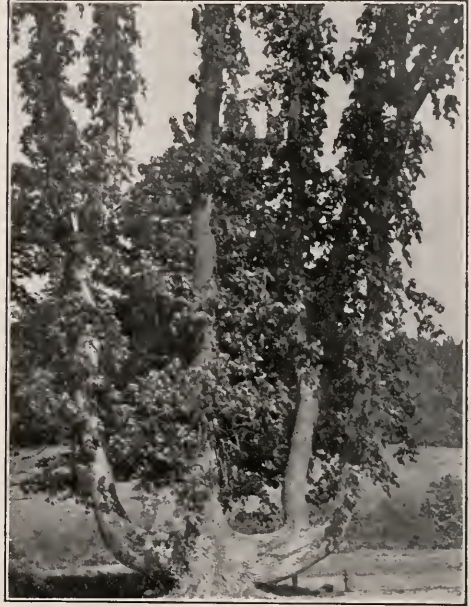
"It has been the victim of many 'shots' from the camera but I have never seen its picture nor its story in print."

The Romance of A Tree.

BY THE REVEREND F. C. H. WENDEL, PH.D.,
ASHFIELD, MASSACHUSETTS.

Many years ago, when the great elm you see in the picture was a very young tree, there lived in the little Massachusetts village of Colrairie, not far from the cemetery, a poor man who was almost entirely deaf and dumb. He took a great fancy to the sapling that grew up at the very edge of the cemetery, and he watched over its growth with tender care. In those days there was a rail fence around the God's

Acre, like those you have often seen in the country. As the two main branches of the tree began to come out, the deaf and dumb man bent them under the fence rail so that the tree began to grow in an odd shape different from



THE HARP ELM IN A CEMETERY.

Photograph by Rev. F. C. H. Wendel, Ashfield,
Massachusetts.

the other elms anywhere in the neighborhood.

After some years had passed, and the sapling had become quite a tree, the people of Colrairie began to make improvements. Among other things they started to pull down the old rail fence around the village cemetery, and to build a retaining wall. To do this, they found it necessary to cut down a number of trees. But when they came to this elm, its poor deaf and dumb friend made the most decided objections. Of course he could not make his protest known by words; but he used signs, he uttered strange grunts and groans, and he repeated over and over again, in harsh, guttural sounds, "No, no no!" Seeing him so thoroughly "sot," his neighbors gave in. He himself with his axe carefully cut out the fence rails around which his tree had grown. The retaining wall was built with quite a

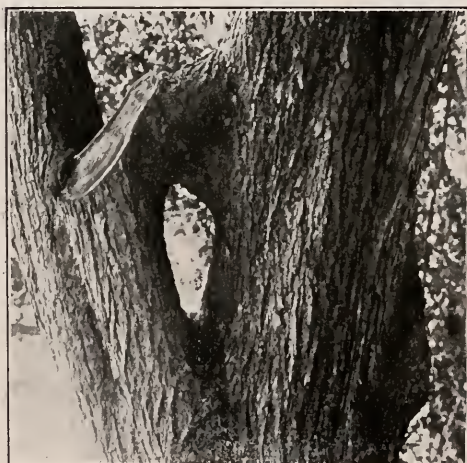
bulge at this point; and soon the "Harp Elm" as the tree began to be called, because of its shape which, however, rather resembles a lyre than a harp, dominated the whole view. Years later, when the poor deaf and dumb man died, his friends and neighbors buried him under the tree which he had befriended and saved. So this beautiful elm, the admiration of all who see it, and which people drive and walk miles to see, is his only monument, and assuredly it is a fitting one.

A Curious Elm Bond of Union.

Stamford, Connecticut.

To the Editor:

I desire to call your attention to the peculiar formation on an elm tree in



THE ELM BOND OF UNION.

West Park just north of the Soldier's Monument. I have passed that elm many times, but never specially noticed it, and perhaps would not have done so if my interest in nature had not recently been deepened by your excellent magazine. When I first observed the tree as the consequence of this newly awakened interest, it at once came to my mind that probably few people who pass this wonderful work of nature have ever derived the pleasure they should obtain from the observation of so remarkable a growth.

You will see that the tree has de-

veloped a bond to hold together its two larger branches so firmly that there is no danger of their splitting apart. Of course, I do not mean to say, nor to imply that this was the deliberate purpose of the tree, but the bond undoubtedly has this result, as any one who observes it can readily see.

HARRY W. HURLBUTT.

Bayne-Blauvelt Bill.

NEW YORK PROHIBITS THE SALE OF WILD GAME.

One of the most notable achievements of this session of the Legislature has been the passage of the Bayne-Blauvelt Bill for the prohibiting of the sale of wild game. This measure marks the most important step in the movement for the protection and conservation of wild life on this continent. Game laws are never popular, and it is a source of constant wonder to those who realize the fierce independence of the average American citizen, to realize how he has, more or less quietly, acquiesced in certain restrictive measures. Each step in the campaign has been marked by protests and sometimes by set-backs, but it will be a surprise to all lovers of nature to realize that the destruction of the wild life has now gone so far, that the prohibition of public sale has become imperative.—*Zoological Society Bulletin, New York City.*

The Defect We Try To Remedy.

All our science lacks a human side. The tenant is more than the house. Bugs and stamens and spores, on which we lavish so many years, are not finalities; and man, when his powers unfold in order, will take nature along with him, and emit light into all her recesses. The human heart concerns us more than the poring into microscopes, and is larger than can be measured by the pompous figures of the astronomer.—*Ralph Waldo Emerson.*

The magazine fills a long felt want with me.—*Reverend Manley B. Townsend, South Pascagoula, Mississippi.*



The Buildings in New Arcadia.

The gift of the Arcadia buildings to The Agassiz Association by The United Workers of Greenwich, Connecticut, was announced by the press generally and by the brief notice that we were able to insert in the July number of *THE GUIDE TO NATURE*. This gift gives hope and encouragement for the realization of an ideal Arcadia, and an

no use for them, is an insolvable puzzle. But The United Workers did exactly the right thing and obviated our difficulty so far as that could be done in the circumstances. We can now go on with our work in these buildings which are filled to their utmost capacity, and well fitted to our needs. When this surprising and welcome gift came to us, the foundations for the new Arcadia



LAYING THE FOUNDATION STONE OF THE NEW ARCADIA.

equipment well fitted and much needed with which to do our work.

The proposed new building in the new Arcadia even if it had been erected as planned, would have been inferior to these in several respects especially in working conveniences. Several hundred dollars had been expended by the AA in fitting the old buildings for our needs. Why they should be taken from us, when we had thus fitted them at great expense of time and labor, and be given to an organization that has

were almost completed, but it was providentially found that they were just right for the necessarily modified plans. The new building will have only one story and one room—an auditorium and exhibition room. In it we can receive our visiting Chapters, Members and friends, and there hold the sessions of the Summer School without stopping the regular work.

Our dream of the ideal AA Home may now be realized, thanks to our many kind friends. We are almost

half way there. Not quite half the amount necessary to move these buildings and to erect the new one has yet been collected. The following is the list of the contributions received up to the time of going to press with this number. May we have your name in the next list? Write or call if any particulars are not clear as to immediate needs and ultimate plans.

Previously acknowledged . . .	\$1,520.45
Mr. L. D. Rhinehart, Stamford, Connecticut.	5.00
Mr. J. Chester Bradley, Atlanta, Georgia.	5.00
Mrs. Wm. B. Dinsmore	25.00
Dr. Samuel Pierson, Stamford,	5.00
Miss Ethel Carey, Sound Beach, Connecticut.	1.00
Mr. Ed. Sandreuter, Sound Beach, Connecticut.	5.00
Mr. W. A. Chard, Stamford,50
Mr. William T. Davis, New Brighton, New York.	5.00
Mr. Eugene Schleip, Sound Beach, Connecticut.	5.00
Dr. and Mrs. Charles E. H. Phillips, Glenbrook, Connecticut, (Increase—total of \$25.00)	10.00
Mr. Zenas Crane, Dalton, Massachusetts (Increase—total of \$150.00)	50.00
The Century Company, New York City.	100.00
Mr. Charles H. Knapp, Sound Beach, Connecticut.	15.00
A Friend, Stamford, Conn.	50.00
Mr. Robert Stewart, Sound Beach, Connecticut.	15.00
Mr. Schuyler Merritt, Stamford, Connecticut.	5.00
Mrs. Edward Lord, Stamford, Connecticut.	2.00
Ayres Brothers, Hoit & Company, Stamford, Connecticut, (Increase—total of \$300).	100.00
Mr. E. N. Fast, Stamford, Connecticut.	5.00
Reverend Louis C. Wurtele, Acton Vale, Quebec, Canada.	5.00
Total	\$1,933.95

From Encouraging Letters.

CHAS. H. SMITH, EDITOR "SCHOOL SCIENCE AND MATHEMATICS," CHICAGO, ILL.

It seems to me that The Agassiz Association has not been given a "square deal" with reference to Arcadia. We will give you a page in our next issue for a statement of facts and an appeal for funds. Hope for your sake and more for the cause of "Nature-Study" that you will make good in securing the \$10,000.

J. CHESTER BRADLEY, SPECIAL ASSISTANT
ENTOMOLOGIST, STATE OF GEORGIA,
ATLANTA, GEORGIA.

I think it the strangest tale that I have ever heard. Why such zeal and devotion on your part should have been so rewarded, I cannot conceive. Surely when your and our kind friend fully understands the situation he will no longer insist on so anomalous a decision as to send you forth from Arcadia. I am sure you have the sympathy of all who are interested in the advance of Science and in the spread of popular knowledge and love of nature. We all owe you a debt of gratitude for what you have done and for what you purpose to continue to do. That it should be so rewarded by one who has been instrumental in encouraging and assisting the work of the past so materially, in the strange manner that he has determined upon is disheartening and unfair.

I wish I could do more to help materially in the cause but the Lord has endowed me with more good wishes than earthly resources. However, I enclose a check for five dollars as my mite towards swelling the fund.

A very interesting catalogue of specimens of Mollusca comes to us from Ward's Natural Science Establishment, Rochester, New York. While it is issued for commercial purposes it is of use to the general collector of shells because of its very profuse illustrations.

True humility is contentment.—
Amiel.

A Recently Enrolled Chapter.

The officers of the recently enrolled Maryland Avenue Chapter of The Agassiz Association, of Baltimore, Maryland, are as follows: President U. L. Amoss; Vice-President, Y. Wilson Knighton; Recording Secretary, John Kormann; Corresponding Secretary, Forrest Barnett; Treasurer, Saul Rudo. The Chapter now numbers sixteen members, and the President writes, "Many more are expected to join shortly."

First Report of a New Corresponding Member, Harold E. Jones, New Canaan, Connecticut.

The doctrine of nature study has been preached long and earnestly, but its devotees are still comparatively few. Moving picture shows, dance halls, bowling alleys, pool rooms, and other places of artificial amusement are alarmingly common, not only in the cities but also in villages where more normal recreations were formerly customary. There are also the widely-prevalent outdoor sports, which, while valuable to those actively engaged, engender a class of passive onlookers who can derive but slight benefit from "watching the game." If people would refrain from such inane recreations, and turn more to the study and contemplation of nature, I believe they would find their time better spent.

The creed of the nature lover is "protection:" protection of the birds, protection of the trees. Between these exists a sort of symbiosis or interdependence. Without birds trees cannot exist, and vice-versa. The modern tendency is to destroy—to kill the birds and waste the forests. It is this destructive tendency which such men as Gifford Pinchot and Theodore Roosevelt are endeavoring to combat, and in their fight they need and should have the support of every intelligent American. The Audubon societies are spending thousands of dollars to preserve bird-life, but their efforts must be in large measure unsuccessful so long as the public remains indifferent to their work. Public interest can only be aroused by the efforts of nature-

lovers in various parts of the country, acting in co-operation with the local press. The people must be shown how valuable are their natural possessions, must be taught to love and conserve them. And there must be more naturalists to aid in this work of instruction.

The first of May, 1909, marked a new epoch in my life. John Burroughs' "Wake Robin" had providentially fallen into my hands, and this second "Book of Revelations" provoked such an interest that I forthwith seized an opera glass and repaired to the nearest strip of woodland. What joy there was in identifying my first downy woodpecker! And this thrill was repeated daily as I made the acquaintance of each new feathered neighbor. Within a year I had observed most of our common birds, and many of the rarer ones, growing more enthusiastic with each acquisition to my list. I then turned my attention to nest-hunting, observations of food habits, and the more complicated phases of field ornithology. One of the chief inducements to bird study is the fact that it inevitably leads to other and more comprehensive interests. The bird lover will soon add to his nature-knowledge by becoming a tree-student, an amateur botanist, and finally a dabbler in that still more fascinating science, entomology.

My two years work afield may be considered merely as a foundation. Everything is now ready for the surmounting structure, character, knowledge, understanding. Whether this shall be composed of cardboard, or of granite, remains to be seen.

Exchange for Members.

Exchange notices will be inserted in this department for members only at twenty-five cents per issue. All others are referred to the advertising Personal Department at fifty cents a month—twenty-five words or less.

I have six hundred United States and foreign stamps collected prior to 1900, two Battenburg patterns fifteen inch and twenty-seven inch sizes, and two wheels for making Teneriffe lace, which I wish to exchange for Lepidoptera or Coleoptera.—Mrs. Ina Milde, Lewiston, Minnesota.

**The Wendell Phillips High School
Chapter of The Agassiz Asso-
ciation, Chicago, Illinois.**

ROBERT P. VANDERPOOL, PRESIDENT ELECT.

The work of this Chapter of The Agassiz Association has gone on steadily during the past year, the second of our actual membership in the Association. We have gone on many field trips, one very pleasant picnic, and have had many successful meetings, social as well as business. Indeed the twenty-six members of this Chapter have become almost like brothers and sisters. We form one happy family.

Still we have been working under many handicaps which we hope to overcome next year. At our last meeting we elected the following officers for next year: President, Robert P. Vanderpool; Vice-President, Albert Noble; Secretary, Fanny Ludgin; Treasurer, Sydney Friendo.

Our faculty sponsor, Mr. Edward E. Hand, Professor in Zoology, has promised to give us a part of his large and beautiful laboratory as a clubroom for us next year. We intend to make for this room large cases containing our collections of insects, shells, etc. Next fall, when all this has been done, we will send you some photographs which I am sure will please you. Our club with your aid hopes to do great things during the next year.

The Fall and the Rise of It.

"Every farmer boy wants to be a school teacher, every school teacher hopes to be an editor, every editor would like to be a banker, every banker would like to be a trust magnate, and every trust magnate hopes some day to own a farm and have chickens and cows and pigs and horses to look after. We end where we begin." We all come back to nature when we have proved the folly or emptiness of everything else.

One must greatly commend the unselfish and determined efforts you have expended and the editorial excellence of the magazine.—*S. Frank Aaron, Philadelphia, Pennsylvania.*

Regarding the Swastika Letter of Inquiries.

SMITHSONIAN INSTITUTION, UNITED STATES NATIONAL MUSEUM, WASHINGTON, D. C.

Memorandum prepared by Mr. Wm. H. Holmes, Head Curator of Anthropology, for reply to letter of Mr. Edward F. Bigelow, dated June 6, 1911.

"The Swastika is merely one form of the Cross and as a symbol has been in use by many peoples, the symbolism differing with each people. It has fairly been buried in a mass of literature, chiefly speculative, by persons quite ignorant of the development of the symbolism of primitive peoples.

"The writer of the article is right in at least one respect, and that is the statement that the 'good luck' association is recent.

"See article entitled 'Cross' in the Handbook of American Indians, published as Bulletin 30 of the Bureau of American Ethnology."

We add to the report of evening grosbeaks seen at Plainfield, New Jersey, records of the birds observed at Summit, and along the Orange Mountain; also one record from Connecticut.

LITERARY NOTICES.

Germ of Mind in Plants. By R. H. France, Chicago: Charles H. Kerr & Company.

The author says that, "Science must, in the future, be made the property of all." He has done well in placing before the general reader a very suggestive and inspiring phase of plant life,—almost plant thought.

Domesticated Animals and Plants. By Eugene Davenport. Boston: Ginn and Company.

The aim of this work is to stimulate a widespread interest in domesticated animals and plants—to account for their origin, describe their life in the wild, explain their appropriation by man, show our dependence upon their services, state clearly the methods and principles of their further improvement—and, incidentally, to explain heredity in such a simple way as to bring within the range of the young student and the general reader the main facts of transmission, applicable alike to plant and animal improvement, and to human relations as well.

Among School Gardens. By M. Louise Greene, M.Pd., Ph.D. New York: Charities Publication Committee.

The managers of the Russell Sage Foundation have here done good work in placing in convenient and effective form this interesting material of an important phase of outdoor interests.

Methods in Plant Histology. By Charles J. Chamberlain, A.M., Ph.D. Chicago: The University of Chicago Press.

This second edition of a book well and favorably known to biologists has been completely revised and considerably enlarged. It contains much valuable material for the user of the microscope whether amateur or professional.

Pets of The Household. By Thomas M. Earl. Columbus, Ohio: The Livingston Seed Company, Publishers.

We receive many inquiries regarding caged birds but cannot take the time nor the space to answer them all. Send twenty-five cents to the Guarantee Bird Company, 796 Eighth Avenue, New York City, and obtain a copy of this book, and you will have the whole thing before you.

Advanced Bee Culture. By W. Z. Hutchinson. Medina, Ohio. The A. I. Root Company.

This is an interesting, thoroughly practical book for the experienced worker with honeybees. Mr. Hutchinson, the well-known editor of the "Bee-Keepers' Review," is a specialist in honeybees. Here is his characteristic statement:

"In reply to the query, 'What will best mix with bee-keeping?', I have always replied, 'Some more bees.' When the conditions are favorable I am decidedly in favor of bee-keeping as a specialty—of dropping all other hampering pursuits, and turning the whole capital, time, and energies into bee-keeping. If bee-keeping can not be made profitable as a specialty, then it is unprofitable as a subsidiary pursuit. If bee-keeping must be propped up with some other pursuit, then we had better throw away bee-keeping and keep the prop."

The book is, therefore, not the best for a beginner but contains much valuable inspiration and incentive useful to the beginner as well as to the experienced apiarist.

In "Bird-Lore" for August, Mabel Osgood Wright continues her serial on "Birds and Seasons in the Garden of a Commuter's Wife." Professor Cooke gives records of the migration of sparrows, based on thousands of observations made throughout the country. There are numerous studies of bird life illustrated with photographs from nature, as well as colored plates, a special department for teachers, and all the news of the most recent activities of the Audubon Societies.

The Practical Flower Garden. By Helena Rutherford Ely. New York: The Macmillan Company.

A well written, convenient book with beautiful, full page illustrations, some of them in colors.

How to Read Character in Handwriting. By Mary H. Booth. Philadelphia: The John C. Winston Company.

One's physique and physiognomy, and the method of using the English language and even of writing it, are but expressions of the inner man. Of all expressions of character in handwriting this is a very suggestive little book.

The North American Slime-Moulds. By Thomas H. MacBride, A.M., Ph.D. New York: The Macmillan Company.

This is the authority for the professional worker with slime-moulds and also contains much interesting material for the general nature student. Indeed, some of it, especially the plates, would interest the boys and girls. The editor of this magazine not a long time ago prepared an interesting illustrated article from this book for "St. Nicholas."

Ruskin; A Study in Personality. By Arthur Christopher Benson. New York: G. P. Putnam's Sons.

This volume consists of seven lectures on the life and work of Ruskin, delivered in the Hall of Magdalene College, Cambridge. The sketch, which the author claims is not a finished portrait, evinces much sincere love and admiration for Ruskin's message and example. The author very nicely summarizes Ruskin's disappointment at not being able to get the whole world to appreciate natural beauty and interest. He says as follows:

"He took for granted that the spirit which loved and admired and welcomed beauty, and drank at its springs, was *there* in humanity, but as the years went on he began to see that it was not so. He saw that, all the world over, the majority of the human race had no care or love for these things at all. He had believed that human beings were dull, only because they admired, or tried to admire, the wrong things, and he had thought that they had only to be shown the right things to admire and love them. But he found that people were at heart indifferent, and worse than indifferent; that the world was full of ugly desires and low delights; that men were selfish and cruel and sensual; that they loved wealth and comfort and display; that many people lived from childhood to age under the shadow of base influences and devastating tyrannies; and so he began to see that if they were to admire and love what was pure and noble, it was not enough to point out the work of great artists, but the nature of man must be somehow purged and changed."



PUBLISHER'S NOTICES

'Tis not in mortals to COMMAND success, but we'll do more, Sempronius, we'll DESERVE IT.—*Addison: Cato.*



We show above a line-cut of one of the strongest and most attractive posters designed to advertise and sell photographic goods.

This poster, a lithographic reproduction, possessing an exceedingly pleasing color combination, is bound to attract in most forceful manner the attention of the public, wherever it is displayed.

The size of the original is 12 x 18-1-4.

We may add that this poster is also shown in a large scale on the outside wall of the factory premises of the C. P. Goerz Am. Opt. Co., in New York, and as the same poster is used extensively by the other branches of

the C. P. Goerz Co., all over the world, the traveling public will soon be familiar with the "Man with the Camera," and will know that the world famous Goerz products may be had wherever this poster is shown.

Bigelow's Plant Analysis.

BLAIRSTOWN, N. J.—"I find it the most adequate and complete of anything of the sort I ever examined."—*L. A. Thomas, Teacher Bot., Blair Pres'l Ac.*

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EVANSTON, Ill.—"It very satisfactorily fulfills its intended purpose."—*O. H. Szecey, Acad. of N. W. Univ.*

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GREENVILLE, Ill.—"We find it entirely satisfactory."—*W. A. Orr, G'ville Col.*

U. S. GEOL. SURVEY, Payson, Ariz.—"I prefer Bigelow's Herbarium and Plant Analysis to any that I have ever seen."—*J. W. Farmer.*

PINEGROVE, O.—"I am highly pleased with the combination (Herbarium with 'Key.')"—*F. F. Vale, Supt.*

NEW YORK CITY.—"So pleased are we with the Herbariums that we send for more."—*Sister M. Rosalita.*

SEPTEMBER

VOL. IV.

1911

No. 5

THE GUIDE TO NATURE

THIS NUMBER CONTAINS:

"Beauty in the Life of a Portrayer
of Beauty."

"Along Freedom's Great Highway."

"Good Use of the Camera."

"Cruelty to a Cat Exploited as a Matter
for Approval and Applause."

"A Railroad Company Aids Arcadia."

Also Editorials and Many Short
Articles of Interest.

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION

ARCADIA:

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I have for Sale

Elegant Country Estates, Shore and Inland Residences, Farms, Acreage, Cottages and Building Sites. Also a number of selected Furnished Residences and Cottages to Rent in all locations.

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Greenwich, Conn.

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We carry a general line of Nursery Stock, such as; Evergreens, Ornamental Shade trees, weeping trees, all kinds of flowering shrubs, privet, berbery and other hedge plants, trailing and climbing vines, hardy Herb. plants, fruit trees, berry bushes, grape vines, etc. Our stock is grown far apart in Nursery rows, so that each plant gets the full benefit of rain, sunshine, nourishment, etc. Our soil is excellent for growing nursery stock and is under high cultivation. We thus insure plants with excellent fibrous roots, strong and healthy, which transplant and grow with ease when properly treated.

We shall be glad to show intending purchasers through our nursery, as we think it the proper way to see the stock in nursery rows.

Our nursery is located on North Street near the Greenwich Country Club.

We have made a specialty of laying out new places and remodeling old ones, as our records from both sides of the Atlantic will show. Training and long experience have taught us to do this work in the most artistic and effective way. Trees, shrubs, flowers and specimens in lawns must be placed so that they will harmonize, give shade where wanted, hiding unsightly places, but leaving vistas and making display of flowers and foliage and other worthy objects.

We may here mention our connection with the World's Columbian Exposition, the Brooklyn Park Department, the Arnold Arboretum, Boston, and many private parks in and around Greenwich.

GREENWICH NURSERIES

DEHN & BERTOLF, Props.

LANDSCAPE GARDENERS AND NURSERYMEN

GREENWICH, CONN.



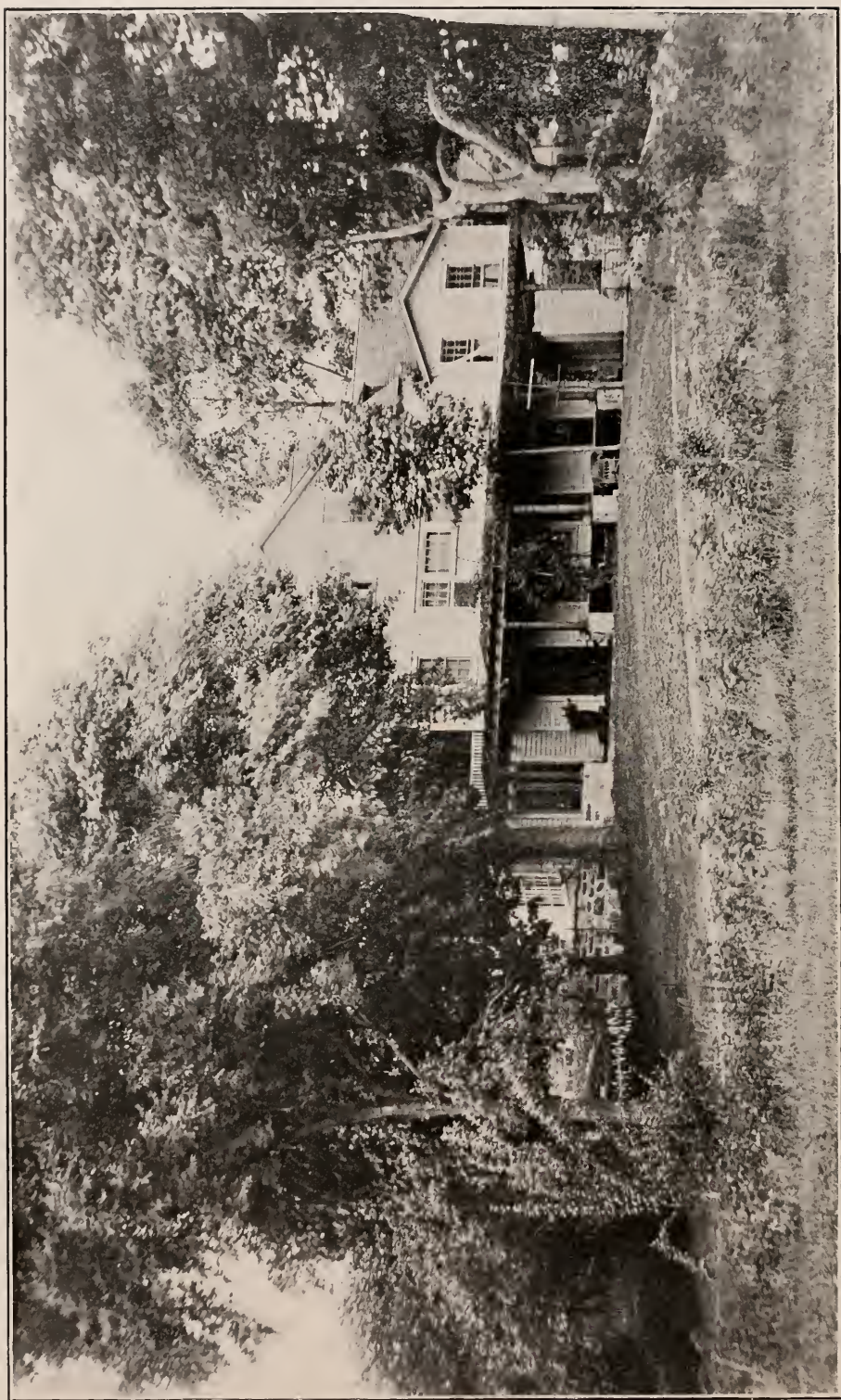
IN GOD'S OUT-OF-DOORS.

Some people do not well know that God is out-of-doors. I marvel at them. . . . God is out-of-doors also. God is everywhere. He made the Out-of-doors and loves it, and haunts it, as Jesus did the mountain and



the sea. "Behold the lilies how they grow," He said whose name is sweet; and so I will heed them; and, He said, "Are not two sparrows sold for a farthing?" True, sparrows are very plentiful and bickering, but I will look at them, for He made them and pointed them out to me.—*William A. Quayle.*





THE HOME NEAR TO NATURE OF JOHN GUTZON DE LA MOTHE BORGLUM—A PORTRAYER OF BEAUTY.

Go out of doors for inspiration, then you can find the immense and varied nature in all its different moods. There is where your soul can feed and expand. For a time, close your studio behind you. Above all, when you return be sure that there is a bit of sun-light in your soul and some ambition in your heart.—*J. H. Garo, President The Photographers' Association of New England, Boston, Massachusetts.*

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

SEPTEMBER 1911

Number 5



HOMES NEAR TO NATURE
COUNTRY, SUBURBS AND SEASHORE.

Beauty in the Life of a Portrayer of Beauty

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



JOHN GUTZON DE LA MOTHE BORGLUM, a sculptor famous the world over for the excellence of his work, left New York City for the remote part of the country known as Turn-of-River, Stamford, Connecticut. At his New York studio he had every facility for the reception of visitors, for the employing of labor, for convenience of transportation and for access to the entire world of art and literature.

At first thought it would seem absurd to leave all these conveniences of civilization and go into the heart of the wildwoods five miles from any post office, railroad, store or village, and there attempt to carry on such

work as his. When I heard of his migration, I went to see him, to ascertain, if possible, why he had done this apparently rash thing.

I found just what might naturally be expected. A sculptor, like any other person of artistic temperament, is primarily and at heart always a naturalist. The attraction of such a person toward the heart of nature is stronger than all the conveniences of the city, and Mr. Borglum, in this secluded, picturesque realm, is inspired by the beauty that everywhere surrounds him.

Mr. Borglum is not a naturalist by name nor is he one that is inspired by the modern agricultural raise-a-few-crops, chicken-fever-buy-one-old-hen, raise-something-this-or-that-and-keep-



MR. BORGLUM'S NEW STUDIO FOR CHISELLING BEAUTY.

down-the-expenses. Mr. Borglum at once shows in his actions and his conversation that there could be found no better example than he to influence others to seek a nearness to nature and to guide them to the right point of view. One thing Mr. Borglum has not done; he has not cut and slashed and cleared away the beauties of the roadsides; he has not felled the trees and "reclaimed" the land, but he has tried in every possible way to develop the natural beauties of the four hundred acres that he has collectively named "Borgland."

I will show you the treasure. He advanced a little way into the resources of the woods and there paused as if in the presence of the marvelous and commented, "I think I know right where it is." He raised a little clump of shrubbery and very carefully and lovingly lifted some branches and ferns. "You see," he remarked, "I have to hide it; it is so near the path and so many people pass this way that might pull it up by the roots. You will be surprised to learn," he continued, "what trouble I have to make even my best friends understand. We



"VERY CAREFULLY AND LOVINGLY LIFTED SOME BRANCHES AND FERNS."

I found him on the roof of a new studio, instructing the men as to the proper placing of the timbers which are of new and original design. After cordially greeting me, instead of saying, "Come and see what I have done," he said, "Let me show you something interesting. I want you to see my *purple orchis*." We passed into a narrow, thicket bordered path, by the side of a picturesque brook; we crossed a rustic bridge, then he said, "Now

do not pick even a flower from all our four hundred acres, but we gather souvenirs of them. When we return to the house I will show you how we do it."

"Here, hold on a minute," I exclaimed, just as he was again covering the rare orchid, "I want a souvenir of the rarest of all the specimens that I have discovered, that I purpose to reveal to other nature lovers as a notable example of the manner in which a way-



THE PURPLE FRINGED ORCHID.

side flower should be treated so as to protect it from rude hands." The accompanying illustration shows the manner in which my camera has kept a souvenir of this famous sculptor in the act of hiding a beautiful natural object from the public, in order to protect it from the ruthless, ignorant, devastating attentions of a part of that public.

After the flower had been covered, we retraced our steps through the ravine to a beautiful lake. "Here," he said, "is where I go fishing." Imagine what a shock to me was the word "fishing" coming from a man that had so tenderly protected a flower. "What!" I exclaimed, "You don't mean to say you catch fish for sport!" "Oh, no," he said laughingly. "I do not catch them; I only play with them."

"Hey, O Bill, Bill, bring me some worms, will you; I want to show this naturalist the modern way to fish." Bill, alert, ran for a fork and soon came with one or two other men with their hands full of worms. Then Mr. Borglum entertained us by throwing the



PLAYING WITH A TROUT, WITH A BARBLESS "FLY."

worms, one at a time, on the water so that we might see the trout jump for them. "Is that your way of fishing?" I inquired with pleased surprise. "No," said he, "I really go fishing with rod and line in that canoe." Then to me and my daughter he explained his

or food. These trout are far too valuable as friends. They often have a little frolic with me."

When we arrived at the house he showed me a collection of blank books made of heavy, deckel-edged paper. The covers are of rich leather, which



GIVING A LESSON IN PLAYING FISHING.

commendable method. First he showed me a new kind of fly—a barbless one. This he attached to the line and trailed it on the water. As there was no barb in the fly, this kind of fishing afforded more fun than any other that I have ever seen, because one can catch the same fish over and over again, with pleasure to the fisherman and no harm to the trout. It was as amusing as the trailing of a bit of yarn to excite a kitten. The photograph shows one of these playful attempts by which a fourteen inch trout is lifted above the water." I seldom use the rod and line," he said, "mostly I fish by the first method, rarely take a fish her for sport

he explained is pigskin—a good, appropriate, country material, I thought. One book is marked, "Animals of Borgland"; another, "Birds of Borgland"; another, "Plants of Borgland"; another, "Fishes of Borgland." At first I supposed that the book on plants was an herbarium for preserving specimens of the plants found in that vicinity, but to my surprise I learned that, although Mr. Borglum lives in the midst of acres of plant growths, he never picks one and never allows one to be picked. In the book he and Mrs. Borglum make drawings of the plants.

Then he invited me to visit the new studio, about three-quarters of a mile



MR. BORGLUM FORDING THE LITTLE RIVER
ON HIS STALLION.

southward from the house. My friend and I rode in an automobile and Mr. Borglum accompanied us on a spirited Arabian stallion. As he forded the little river, the scene was so beautiful that I requested him to stop until I could set up my camera and take a photographic souvenir to show the reader. I now understand where Mr. Borglum got the inspiration for the Sheridan statue.

We arrived at the studio where he told us with no little pride that the beautiful blocks of granite had all been quarried in the immediate neighborhood. As he patted one of the stones lovingly, he said to Mr. Davenport, who was with me, "You could not have found better stone than that if you had searched all over the United States. Indeed, I like our American marble much better than I do the Grecian marble. It works better and has a finer lustre."

For a time I interested myself in looking around and in watching the workmen, and then walked down a picturesque path to the brook, not far from the ford. I found that Mr. Borglum had there built a rustic bridge above the deepest pool in the little river. When he does not ride on horseback to the studio, and ford the stream, he walks across the bridge, and always pauses to watch the fish as they glide through the glistening waters of the pool below.

"Marcelline," his clownish dog, so named from the famous clown of the Hippodrome, seems to understand what is going on and assists his master in these observations. He can assume so dignified, thoughtful and inspirational an air, in close resemblance of the at times solemn visaged original at the Hippodrome, that it makes one think that he is rightly named. "Marcelline" has fallen into the ways of his master and is inclined to retrospection and a quiet observation of the beauties of nature.

It was not the mission of my visit, nor is it the purpose of this article, to



THE SHERIDAN STATUE.



ON THE ROAD TO THE NEW STUDIO.

tell of the wonderful skill with which Mr. Borglum molds the clay and wields the chisel to cut away the stone or the marble. It was rather my mission to become acquainted with the naturalist and to introduce him, as such, to the reader. I must confess that that part of his professional work that interested me the most was the ready adaptability of Bill who drives

a beautiful yoke of oxen. If there is any one thing in all this world that Bill likes to do, it is to drive those oxen. He has been accustomed to it from boyhood, and regards it as something really worth while, but he does occasionally condescend to take an hour's rest to become a study in the beautiful and to pose as Orpheus by the side of Eurydice. Curious, isn't it,



"HE PATTED ONE OF THE STONES LOVINGLY."



"MARCELLINE' SEEMS TO UNDERSTAND WHAT IS GOING ON AND ASSISTS HIS MASTER IN THESE OBSERVATIONS."

how the last is first and the first is last? How much like many others in this strange life of ours is Bill to whom the end and aim of life is to do his farm work and to do it well, especially to drive a yoke of oxen. In such an occupation Bill would never be known beyond the farm, and his influence would be limited, but during his hours of rest he is made immortal by the skillful touch of the sculptor's

lum's method. He takes the most available material and reveals its beauty. In reference to the architecture of his new studio he said hardly a word. I could not get him to speak about his plans for the wonderfully beautiful building, but when we arrived at his cottage—one of the ancient farmhouses and consisting of only three tiny rooms, the whole thing being about as large as a child's play-



BILL IS THE ORIGINAL OF ORPHEUS.

hand as it models Bill in the clay. Bill at the best is not prodigal in the matter of clothes. Three pieces are sufficient—a hat, a shirt and trousers. These are quite easily stripped off in about half a minute, and then Bill is the original of the beautiful, graceful Orpheus to be admired by thousands of the highest culture of the land.

But this is in accord with Mr. Borg-

lum's method. He takes the most available material and reveals its beauty. In reference to the architecture of his new studio he said hardly a word. I could not get him to speak about his plans for the wonderfully beautiful building, but when we arrived at his cottage—one of the ancient farmhouses and consisting of only three tiny rooms, the whole thing being about as large as a child's play-



"OUT OF A LITTLE RUSTIC COTTAGE, HE HAS OBTAINED A GEM OF A BUILDING."

What a wonderful world this would be if every one could see beauty as he sees it everywhere, and could portray

that beauty as he portrays it, so that others might see and appreciate it. Nature in herself is not beautiful.



BILL (THE ORIGINAL OF ORPHEUS) WHO DRIVES A YOKE OF OXEN.



BILL—ORPHEUS AND OXEN DRIVER—AT THE OLD STUDIO.

The beauty is or is not in the mind and heart of the beholder. This old world needs every one to be a sculptor in the modelling of the beautiful so as to be able to see that beauty and then to so portray it that others may see it.

But what is the sculptor himself and what has he done? No words of mine

are needed to tell this. The work of his fingers and chisel is known everywhere in the highest realms of art. Not long ago I visited the Metropolitan Museum of Art in New York City, and as I entered the building with a party of young people, I inquired of the attendant, "What do you regard as the best thing that you have in the mu-



MR. BORGLUM AND MR. DAVENPORT ON A BRIDGE IN THE BEAUTIFUL RAVINE.



MOTHERHOOD.



MASK OF ANGEL OF THE ANNUNCIATION.

seum?" He laughed as he said, "That is a difficult question to answer. There are so many classes of beautiful things that it would not be fair to put one class before another." "Oh, yes, it would," I replied. "At a show where



THE FEMALE ATLAS.

After all it is the woman that carries the burdens of the world.

various kinds of pets are exhibited, a blue ribbon is usually ready for the best." Again my attendant laughed at what seemed an absurd comparison. "Well," he finally said, "I think I would say on that principle that the best thing in this 'show' is the 'Mares of Diomedes.' You see we have given it the most conspicuous place at



THE LINCOLN STATUE.

the foot of the stairs." That wonderful group of frantic mares, the work of Mr. Borglum, is the center of attraction at the Metropolitan Museum of Art, and the noble statues at the Cathedral of St. John the Divine show to the world the possibilities of beauty as conceived by this talented sculptor. But the Sheridan statue at the Capitol in Washington, the magnificent head of Lincoln at the Capitol, the group in the Metropolitan Museum of Art, not even the wonderful work at the cathedral shows John Gutzon de la

Mothe Borglum at his best. That remained for my camera to do, and in these pages my camera has revealed the beauty of his heart's love for nature. No beauty of his artistic work equals that in his heart as he covers the rare orchid, plays with the trout, forbids even the firing of a gun on the premises or contemplates the fish as they glide within the pool.

I do not say this to eulogize Mr. Borglum. I say it with the hope that his example may be an inspiration to you.



THE CAMERA



Along Freedom's Great Highway.

BY MARY L. JOBE, NEW YORK CITY.

The Canadian Rockies form a mighty barrier between the productive fields of Alberta and the teeming fruit

near Stephen you can see two little streams which mark the Continental Divide, one whose waters join the Saskatchewan and flow through broad prairies and wooded highlands to a far-off Hudson's Bay; the other, hurtling through the mountains, seeks a wild Columbia, and an inter-continental



AT THE HEAD OF EMERALD LAKE.

lands of the British Columbia Coast. But this barrier has been boldly forced near the headwaters of the Bow and the Kicking Horse rivers, by the Canadian Pacific Railway, which brings the camper, the mountaineer or the pioneer into a region of unparalleled loveliness. From the railway



ON THE TRAIL TO SUMMIT LAKE.



EMERALD LAKE.

ocean. Follow this westward bound stream for a little, and you will reach the region of magnificent mountain peaks and glorious lakes. Here the Cathedral Crags and Mount Ogden flank either side of the tumultuous Kicking Horse, here they are replaced by

Mount Stephen and Mount Field, while still farther on Mount Burgess and Mount Dennis guard the pass. They are all so near in the roseate light of late evening or of fair morning that you feel as if you could reach out and touch them with your finger tips.



ON OTHER DAYS WE'VE TARRIED HERE AND SPREAD OUR CANVAS UNDERNEATH THE TREES.



TAKAKKAW FALLS.
A View from the Lookout.

But if you will come with me, I will show you yet fairer scenes. We leave the finely equipped Mount Stephen House at Field, and take the well-kept wagon road around the foot of Mount Burgess. Seven miles of splendid road lying between columns of lodge-pole pines, flaunting their green tops against a bright blue sky! Oh where are skies so blue or where is sunlight so dazzling as in these fair highlands? Forty two hundred feet above sea-level our map tells us! Only forty two hundred feet below heaven we feel!

Ahead the snow peaks, in brilliant color contrast to the dark green pines, thrust themselves into the sky and we look behind us only to find the scene duplicated. "Pines, pines and the shadows of pines as far as the eye can see," and we still follow the mountain road. Here it twists and turns and we come abruptly to a swift-flowing river. We bend to drink and find it icy cold, the overflow from a great snow-fed lake. Another mile and we come upon Emerald Lake, an iridescent, scintillating expanse of water, mirroring four great snow peaks that rise from its depths. Here at our right is Mount Burgess, graceful, ethereal, in every lineament, with a tiny chalet nestled at its base, the one touch of man in all this luxury of wildness. At the head of the lake is coffin-shaped Wapta, the home of the mountain goat and the grave of any one less sure footed but daring enough to try its almost impassible cliffs. Wapta, the River mountain, the Stonies named it and to its perpetual snows the Yoho and the Emerald Rivers owe a mighty debt. No wonder the Indians deified the mountains and the Sun Wapta, the great whirl-pool of the Yoho, which gave them leave to angle in its finny depths. What a songful, tuneful land, and only the white man has dared to give these abodes of mountain nymphs the harsh sounding titles of civilized men, so ill befitting them. Here on the other side of the Yoho portal is Mount Michael looking off into the white north to the region of great glaciers, and here at our left, Emerald Peak, a gray-green pyramid of granite, reflect-

ing the glorious color of the lake. At its foot, a perfect camp site invites us, but we rest only to appreciate past all forgetting, the wondrous beauty of the lake. On other days we've tarried here, and spread our canvas underneath the trees. That clear, green lake might tell many a tale of our sojourn by its waters; of how we rose at daybreak that we might watch the graceful ducks in swimming contests cross its glassy surface; of how we plunged into its icy, unfathomed depths that we might meet the day refreshed; of how we lured the wary trout that we might do honor to man's deceit and breakfast; of how we cried in *jodels* to the mountains that we might offer up the gladness of our youthful hearts; of how we listened to the crashing thunder and thrust our faces out into the stinging snow that we might rejoice in happy comrades and in our forest home; and of how we built our fires at twilight and sang our hymns to the eventide, that we might remember with tenderness our blessings and our absent ones. And today we shall do well, to listen to its legend and to its promise; for, in the granite canyons where dwell a restless humanity, it will call again from out the vastness with an insistence that knows no denial.

But we must travel fast or we shall not see the Yoho valley before night-fall. Our trail leads to the head of the lake over a fan-shaped moraine, through which a hundred rivers run into the lake, and then up a zig-zag mountain side to a great cobble-stone plateau sloping ever upward. The going is far from good and with heavy ruck-sacks on our backs,—for we adjure all pack trains and carry three days' provisions and our blankets—we have mercy in our hearts for all beasts of burden. The sloping plateau abruptly joins a heavy growth of timber and we climb upward in its grateful shade along the shoulder of Mount Wapta. At last we strike the Yoho Pass, and Summit Lake is there to greet us. We had thought Emerald Lake was cold but our boiling blood is congealed as we bathe face and arms in waters born in sub-terranean ice caves. Leaving



TAKAKKAW FALLS.
From the high trail.

majestic Wapta in our rear we plunge rapidly down a pine-forested trail hoping to gain the Look-out and our view of the Yoho valley before daylight should desert us. But in our haste, we must not pass unnoticed this tumultuous stream down below the tops of trees at our feet, nor that beauteous dark lake, reflecting the Oriental colors of green pines and flaming painted cups.

A thousand feet down and we gain the Look-out, in time to see landscape and sky already colored with the fires of sunset. We had reached the Promised Land! Ahead for twenty miles the glacier-girt Yoho valley unfolds in marvelous panorama, the fairest corner of the earth. It is a living verdant garden walled in with eternal rocks and snows. Throughout its length a white foaming river runs. Peaceful enough it is in the early morning when the frosts of night have chained the glacial locks of its perpetual reservoirs but in the afternoon when a forceful sun has thrown these flood gates open wide, it roars like a brutish beast hungry for human life. One day when far from food and camp we had braved its turgid volume, had braved and almost lost and now in the hour when daring forsakes us, we see among the host of other lesser perils, the angry Yoho as it surged about us on the day of our escape. From the great plateaus of snow, countless waterfalls leap down the cliffs to join the river below, but here is the father of them all, giant Takakaw. As we gaze, its voice of thunder awakens a thousand crashing echoes in the valley, while its waving arms, beckoning to a vanishing crimson sun, are transformed into myriad rainbows. This is, indeed, our destination! It is the fair country we have been traveling so far to see. We drop down another thousand feet to an anemone-starred meadow and make our night's camp.

feet high, are the highest in the world. The water in the upper portion makes a straight drop of 1,600 feet, runs in cascades for several hundred feet further and again falls 500 feet. The stream is 30 feet wide and swift. The cliff is solid granite. When the stream is full, the roar from the falling water can be heard for miles, and the vibration rattles the windows within a radius of half a mile.



YOSEMITE FALLS.

Yosemite Falls, Yosemite Valley, California.

BY LINDLEY EDDY, KAWEAH, CALIFORNIA.

Yo-sem-i-te is an Indian word meaning Big Grizzly Bear. The falls, 2,624

Good Use of the Camera.

BY WILL D. KYLE, FORT WAYNE, INDIANA.

I have been interested in "Boy Work" for about thirty-three years, and have been using my camera for the last four or five years in connection, and find it a valuable ally—some of the boys taking up the work themselves. My principal object in taking the boys out on river trips is to get them acquainted with nature in her different "moods" at different times of

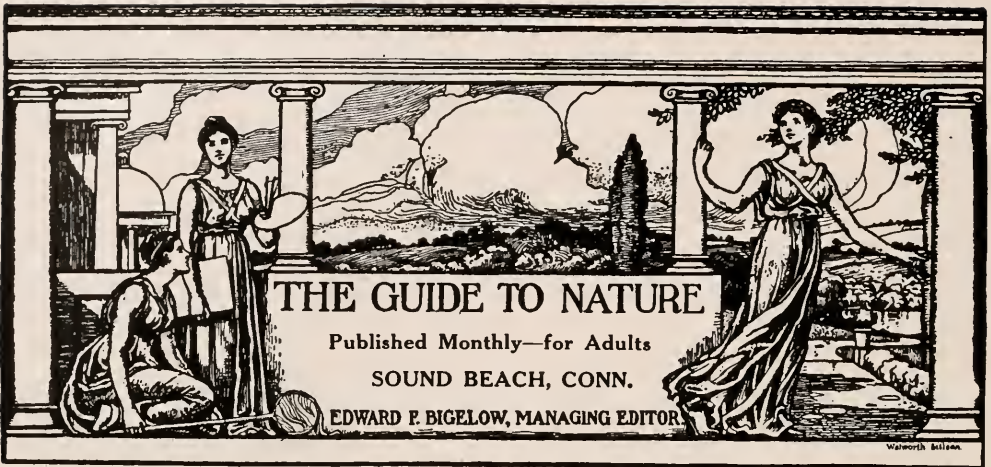
nature spots that are charming indeed. For example, the enclosed photograph shows a little nature spot at the junction of the St. Joe and St. Mary rivers—the latter coming from the left. This is about five blocks from our \$1,000,000 court house (the finest court house in the United States). Only thirty feet from the sycamore tree in the right foreground are a grocery and butcher shop and other business places and residences. Near here is a long bridge



BEAUTIFUL SCENERY UNNOTICED BY MANY PEOPLE.

the year, and I have numberless pictures. Fort Wayne is situated in a peculiarly fortunate position for nature lovers, but alas! there are very few nature lovers here, except among my "boys." In or near the heart of the city (Fort Wayne) the St. Mary's River joins the St. Joseph River and forms the Maumee River, which flows from Fort Wayne to Toledo, Ohio, emptying into Lake Erie. Before and after entering and after leaving the city, all three rivers twist and wind around in the most complicated contortions, thus forming many beautiful

spanning the Maumee over which several thousand people pass daily to reach their homes in beautiful Lakeside and Forest Park additions. I showed the enclosed view to eleven different camera users who live in Lakeside and three of them remarked that it was beautiful and I must have traveled a great distance to find one as beautiful. When I told them where it was and that they pass it four or six times a day, they could hardly believe their senses. Others recognized it after a long scrutiny and with much surprise.



Approval of Nature Education.

The publishers of "The Independent," New York City, are sending out copies of that magazine to various schools and soliciting their advertisements. In the editorial columns, the magazine has a suggestion of an ideal advertisement, as follows:

"To be scholars of Nature and human nature is our first aim; of books the second. We shall honor culture, but intellectual power more. Believing that a wholesome body is essential to a wholesome mind, we shall aim to educate both body and mind together. We shall live out of doors forenoons, thinking, studying, working and learning of Nature; but afternoons we shall spend with books."

Will "The Independent" kindly inform us if it has discovered any private school in all this land that gives such prominence to the study of nature? Let us find such a school and we will extol it to the ends of the earth; show us a school in which nature study is not treated as a minor issue, an unimportant appendage, and relegated to the end of the week or to leisure hours which must be occupied by something, and that school shall be made known at the ends of the earth. We fear that "The Independent" is independent of this century, and is looking in vain and anticipating the future by a hundred years, if it hopes to find any school in the land that realizes that the pupils are to grow to be men and

women to live in this world, and should know how to profit by its interests and beauties.

"The Public Has Failed You Support."

These are the words with which the owner of Arcadia closed his letter requesting us to vacate the place. While they are true only in a sense they are wholly true from the point of view from which he made them and from which he might reasonably be expected to make them. We recognize the fact that the ten thousand persons reached by us every month are very far from being the whole of the hundred million people that constitute "the public" in this country. Within a radius of even fifty miles from Arcadia there are more than five million people, and to a capitalist accustomed to do things on a large scale it must be admitted that even our success in reaching ten thousand for all the world may, to him, seem like failure.

Every one of these ten thousand in his hearty enthusiasm is undoubtedly puzzled to know why others have not manifested a similar interest. The reason is very nicely explained in an article in "The American Botanist." That magazine, commenting on the fact that The Carnegie Corporation of New York City has recently been incorporated to aid in the promotion of science, speaks as follows:

"For some years signs of a growing interest in the spread of useful know-

ledge has been manifested by wealthy men. As instances may be cited the bequest of about thirty thousand dollars for the upkeep of the Lloyd Library of Cincinnati maintained for the advancement of botanical science, and the founding of a publishing house in Chicago with a million dollar endowment to aid in issuing useful books which otherwise could not be issued because the demand for such matter is still too small to justify its being printed for profit. The general public is not yet alive to the delights and advantages of scientific studies. On this point, Dr. Richardson in an address delivered at the Minneapolis meeting of the American Chemical Society expressed himself thus: 'Considered by itself, science and the scientific method are the most satisfactory and satisfying things in the possession of the human mind. The unfortunate thing—it can not be classed as a criticism—about science is that it has left the multitude untouched. With the results of science and the scientific method on every hand forming so large a part of our splendid materialistic civilization, nevertheless the great, the overwhelming majority of people are ignorant of the methods, the aims and the results of scientific inquiry in daily use and of daily necessity; of even greater import, the scientific method of thought is not a part of their mental equipment.' One of the reasons why the general public has not a more abiding interest in real science is doubtless due to the fact that newspaper writers have so long dealt in a fanciful brand of pseudo-science that the facts seem sober and uninteresting by comparison. To overcome this idea true science needs to be set forth in its best garb, but this cannot be done at present for lack of sufficient support from the public."

Undoubtedly the editor is right and from that point of view the owner of Arcadia is unquestionably wrong in expecting the entire general public to support, on a paying basis, an Institution such as The Agassiz Association which promulgates the tenets of elementary science.

If you ask for an explanation of what

seems a most astonishing act on the part of the owner of Arcadia let me give the best that I can suggest: *he is living one hundred years too soon.*

Carnegie realizes that science needs aid; our benefactor thinks that there should be so great a demand for science on the part of the public that the pursuit of science should be a paying business. Both are right, only one is 1900 A.D., the other 2000 A.D. When you are puzzled to know the cause of Arcadia's troubles ponder this explanation and decide in which century you are living.

"The Scientific Method of Thought."

The foregoing quotation from Dr. Richardson leads me to suggest that some have it and some have it not, and that the two classes are as far from each other as the zenith is from the nadir. Here are two examples that have come to me within two or three days. A business man of New York City took me in his automobile to ride into the realms of wild nature and then astonished me by this remark: "Say, Bigelow, there is no use of your Agassiz Association work. There is no excuse for such an Institution nowadays. Why, don't you know that there is no need of missionary work in popularizing nature? Everybody is interested in nature; there are plenty of magazines on the subject, books are issued from the press every week, all the schools teach it and everybody is moving out of the city to get near to nature. There undoubtedly was a time when such an Institution was needed in the very beginning of an interest in nature study, but now there is no further use for the AA, because its ideals have all been achieved."

The next day a prominent woman of Sound Beach, calling at this office to extend sympathy and aid in our present trouble, made the remark, "You do not realize just how much this institution is needed right here among the intelligent people of Sound Beach."

"Only a few days ago a woman said she would not contribute to the AA nor to the new Arcadia because she

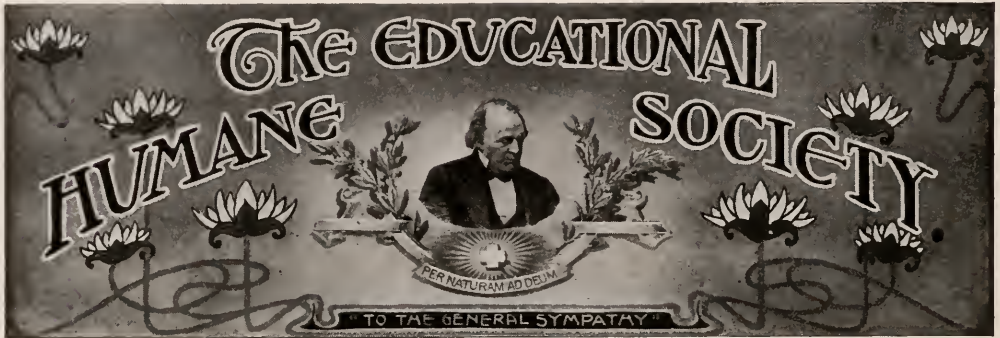
thought it was very bad to set the children to the examining of flowers, bugs and 'things.' They should be doing something more elevating!"

About the same time we were informed that a prominent society woman of Stamford had said that she does not know the difference between a robin and an English sparrow and is proud of the fact that she does not know, and is glad to have everybody

know that she doesn't know.

Is there public need of the AA? One business man is astonished that it is not a paying Institution; one business man thinks everybody is so interested in nature that such a society is entirely out of place, and still two other people are proud of their ignorance of nature.

When doctors disagree who shall decide?



A Chapter of the Agassiz Association. (Incorporated 1892 and 1910.) The Law of Love, Not the Love of Law.

Cruelty to a Cat Exploited as a Matter for Approval and Applause.

Some of last month's magazines had a full page advertisement with the attractive heading in bold type, "How Can I make a Cat Stretch Itself on the Stage Every Night?" and continues, "That is what puzzled David Belasco. He wanted to give a domestic touch to a play: If he could only get a cat to come on the stage at a particular point in the play, stretch itself and lap a saucer of milk. But how to make a cat stretch every night at a given time? He puzzled over it for days. Then an ingenious idea struck him, and every night for 400 nights he made a cat stretch. It made the success of the play. Read how he did it. You never would have thought it possible."

Upon referring to "The Ladies' Home Journal" I found the remarkable statement exploited with the evident expectation of approval from the public and of an increased interest in Mr. Belasco's theatre. The brilliant achievement by which a cat is forced to stretch herself in the presence of the public is described as follows:

"One day I was in a friend's house and the cat at the fireside stretched herself. 'There,' I thought, 'that is the domestic touch I want in "Hearts of Oak.."' For a cat before the hearth is always a comfortable touch, and a cat never looks quite so comfortable as when she stretches herself. But how could I make a cat stretch herself to order every night on the stage? It would be a great touch if I could do it, but how?"

"However, I did it, and this is how: I got a black cat and had a stage man fasten her in a box which was a little too short for her. Then I put her in the cellar, where I fed her in the morning, but gave her no food during the day. Then just before the curtain went up the cat was brought up in her box, which was placed at a part of the stage hidden by the table but near the fire; and at exactly the right point in the play I would open the box. Of course the cat, stiff from being kept in the box all day, would walk over to the fire, stretch herself and hungrily begin lapping up the milk in the saucer. That cat was always greeted with laughter

and applause and every night brought down the house. And yet it was only a little thing, you see."

When such intensely cruel treatment as putting a cat in a box too small for her, and keeping her there without food, and presumably without water, until she is "stiff from being kept in the box all day," when the cat in that miserable condition is brought on the stage to make people laugh and applaud, and when this thing goes on every night of every day for a year and a third, could there be a more emphatic appeal to our Educational Humane Society, or a more glaring example of cruelty for the attention of that society and of all allied workers? To torture the cat would be bad enough. Such things are done "on the quiet" to obtain the desired effect in "animal tricks," but to boast of the torture unblushingly throughout the land as a commendable example of skill is a marked example of the fact that some of us are still living in the age of savagery.

We more and more realize that we have a great work to do. Talk about the fiendish sentiments of the howling mob in the days of the gladiators when human beings were mangled by tigers and lions in the arena! Shadows of the past, you still are with us in the twentieth century; a cat in a cramped box in a cellar for a year and a third, not permitted to eat nor to drink during the day, and exhibited to the public as an object for approval, with a half page illustration by a skilled artist to show the cat's short respite before the footlights once every evening!

Horror of horrors! Where are we on the road of boasted progress in civilization?

"I could go out every day for two weeks and cover the same route, and a short route too, without noticing anything in particular; yet on the last day I might suddenly find somewhere along that route a spot which I might consider the prettiest I had ever seen."
—*John Sloan.*

The Horse's Prayer.

To thee, my master, I offer my prayer: Feed me, water and care for me, and when the day's work is done, provide me with shelter, a clean dry bed and a stall wide enough for me to lie down in comfort.

Always be kind to me. Talk to me. Your voice often means as much to me as the reins. Pet me sometimes, that I may serve you the more gladly and learn to love you. Do not jerk the reins, and do not whip me when going up hill. Never strike, beat or kick me when I do not understand what you want, but give me a chance to understand you. Watch me, and if I fail to do your bidding, see if something is not wrong with my harness or feet.

Do not check me so that I cannot have the free use of my head. If you insist that I wear blinders, so that I cannot see behind me as it was intended I should, I pray you be careful that the blinders stand well out from my eyes.

Do not overload me, or hitch me where water will drip on me. Keep me well shod. Examine my teeth when I do not eat, I may have an ulcerated tooth, and that, you know, is very painful. Do not tie my head in an unnatural position, or take away my best defense against flies and mosquitoes by cutting off my tail.

I cannot tell you when I am thirsty, so give me clean cool water often. Save me, by all means in your power, from that fatal disease—the glanders. I cannot tell you in words when I am sick, so watch me, that by signs you may know my condition. Give me all possible shelter from the hot sun, and put a blanket on me, not when I am working but when I am standing in the cold. Never put a frosty bit in my mouth; first warm it by holding it a moment in your hands.

I try to carry you and your burdens without a murmur, and wait patiently for you long hours of the day or night. Without the power to choose my shoes or path, I sometimes fall on the hard pavements which I have often

prayed might not be of wood but of such a nature as to give me a safe and sure footing. Remember that I must be ready at any moment to lose my life in your service.

And finally, O my master, when my useful strength is gone, do not turn me out to starve or freeze, or sell me to some cruel owner, to be slowly tortured and starved to death; but do thou, my Master, take my life in the kindest way, and your God will reward you here and hereafter. You will not consider me irreverent if I ask this in the name of Him who was born in a stable. Amen.—*Connecticut Humane Society.*

A Heart View of Love of Life.

Why is it that so few persons even among the educated are genuinely and broadly interested in and informed about plants and animals? Of course everybody cares for plants to the extent of wanting good table vegetables and fruits, and nearly everybody cares for flowers. Everybody, too, is interested in the domestic products of the animal world; and most of us have more or less fondness for a few pet animals. After this much has been said it will be allowed, I think, that nine tenths of all grown persons in Christian lands are quite indifferent to the myriads of plants and animals by which they are surrounded. Why is this? Perhaps some one asks what sense there is in such a question. To justify the contention that the great rank and file of mortals ought not to be thus indifferent, we must reflect a bit on the state of being alive, on its nature and scope.

Are you fond of living? Are you one of that great number of human beings who assent to the saying that life is the most interesting thing in the world, the thing to be most sought after, most watchfully tended? What life is it which you thus appraise? Human life, you say promptly; and that is well, so far. But what is human life? Is it something wholly apart from the living things round about you? Surely you have noted some elements in common between the human

life you love so dearly and the lowly life you care so little for. And you have heard something of what the learned have made out about "Man's place in Nature."

I ask you to summon the best thought of which you are capable, and tell me if you have no feeling of selfishness, of smallness, of meanness, when you assert your love of life and mean by "life" nothing more than your own life and that of your family and friends, or even of humanity generally. On the other hand, tell me with equal candor, do you not have a sense of largeness, of generosity, of outgoing to all about you, when your love of life encompasses everything that lives?

By asking the question, Why are most persons so indifferent toward most living things, we approach the answer to the question: It is because our theory of life does not include all life, and because it is not made by our whole selves. It is made by the intellectual side of our natures; the affective, the emotional side having almost no part in the process.—*Professor Wm. E. Ritter in a remarkable and valuable article, "Feeling in The Interpretation of Nature" in "The Popular Science Monthly."*

"It is better to give than to receive,"—and some people seem generously willing that others should have the better!

Vespers.

BURNHAM W. KING, NEW YORK CITY.

The curtain of the night rolls slowly down,
The strident voices of the day are stilled,
The distant clouds have lost their rosy heads,
The warm zephyrs of the air are chilled.

The breezes waft the loons long laughing cry,
The sparrow softly pipes his evening lay,
The seagulls weary seek their distant home,
The stars peep through the curtain of the day.

The lap of waves upon the rocky shore,
The whippoorwill's incessant mournful call,
The boom of night-hawks as they soar aloft,
Make discord in the silence over all.

The silhouette of pines against the sky,
The purple shimmer when the day has past,
The dipper slowly moves in measured arc,
The curtain of the night is down at last.



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

A Railroad Company Aids Arcadia.

Gift Leases More than an Acre to The Agassiz Association. For a Nature Study Park in Arcadia. Is to be Named Nymphalia. New Arcadia to have Six Times the Amount of Land of the Old, and Nearly Double the Amount of Floor Space. Interest and Contributions Increasing.

The New York, New Haven and Hartford Railroad Company has leased to The Agassiz Association a tract of land estimated to contain more than an acre, and situated near the Sound

Beach railroad station, adjoining new Arcadia. The terms of this lease, that make the land practically a gift, are that The Agassiz Association "shall pay . . . as rent the sum of one dollar annually on the fifteenth day of every August, in advance." The purposes specified are that "the premises shall be used . . . for the purposes of a park for nature study."

The material for nature study is more varied and more abundant on this tract of land than on any other similar tract of equal size that I have ever seen. I have been studying it for more



THE SOUTHERN SECTION OF NYMPHALIA—A PART OF ARCADIA.



VIEWS IN THE EASTERN PART OF NYMPHALIA.



than two years, and have just begun to learn how much there is on it yet unobserved and unknown. Every visit to the place reveals an abundance of new material that I intend to use as a subject for a free, illustrated lecture to be delivered weekly in the new Arcadia Assembly Hall. While this gift was made by the railroad company in the interests of the AA's philanthropic work and will therefore undoubtedly bring the company abundant gratitude for the gift, it will also bring the company cash returns from increased travel. The present Arcadia had so many visitors that the management was obliged to limit the time for the receiving of parties, many of school children, from Greenwich, Stamford and elsewhere, to two afternoons a week.

The name, Nymphalia, has been selected for two reasons. The Grecian Arcadia was the home of the water nymphs and the wood nymphs, and it is fitting that this modern Sound Beach

Arcadia have nymphs—real nymphs. They may be found by any one who will seek them in the right spirit. Their names are Love, Study, Enthusiasm, Interest and Beauty. Start with the first as a guide and you will find all the others. "We love things not because they are beautiful, but they are beautiful because we love them."

An equally important reason for the name is the fact that *Nymphæa* is the

name of the white water lily, the floral emblem of The Agassiz Association. The *Nymphæa* are proverbial for their beauty and fragrance, and have long been regarded as an emblem of purity. The white water lilies, as well as other aquatic plants, including the lotus, will be grown extensively in a pool already rich with many native plants.

A marked characteristic of *Nymphæa* is the abundance there of ex-

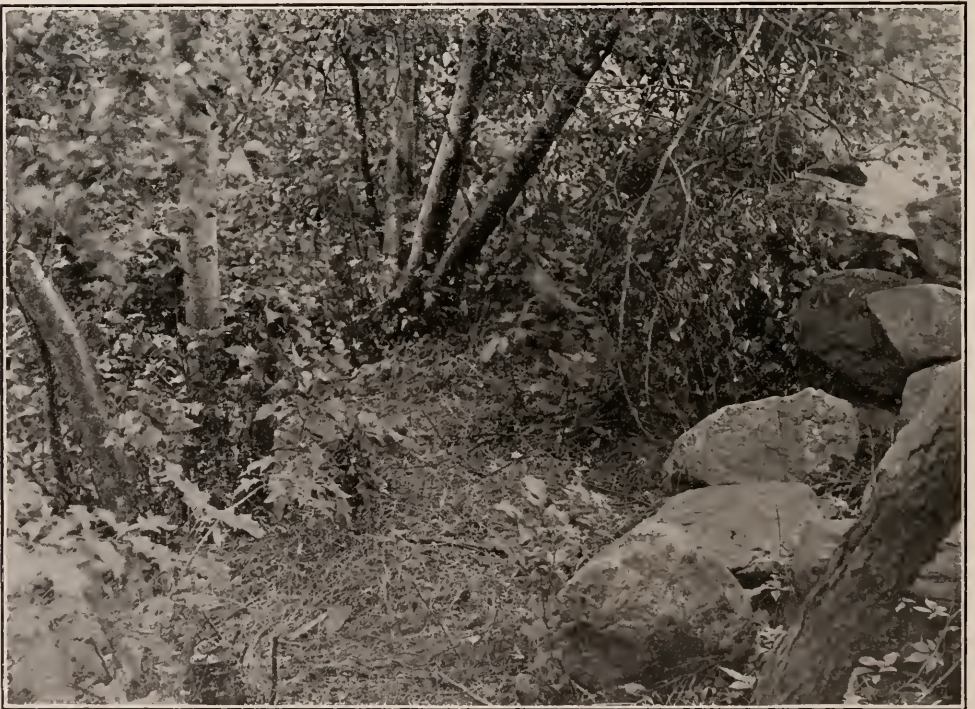


MR. A. C. ARNOLD, STAMFORD, GATHERING CAT-TAILS IN NYMPHALIA.



THE TWIN OAKS IN NYMPHALIA.

tremely tall cat-tails. The botanies state that there are only two kinds of cat-tails—the common, broad leaved (*Typha latifolia*) and the rarer, narrow leaved (*T. angustifolia*). Strange to say, both of these here grow luxuriant-



AT THE BASE OF THE BIRCHES.



THE GIANT OAK IN ARCADIA.
Eleven feet seven inches at the base.

ly in two distinct groups about thirty feet apart.

Within Nymphalia are several remarkable trees. One oak lacks only five inches of being twelve feet in circumference at a short distance above the base, and its branches are remarkable for their beauty and grace. Under it is a picturesque stone wall. Here have come and here will come nature students from near and far for outdoor conferences. Not far away from Nymphalia is probably the most beau-

tiful grove in Sound Beach. This also is a part of Arcadia. So beautiful is the grouping of the trees, north and east, and so pleasing in appearance are the long lines of maples set out on the border of the street, when it was opened by the Ayres Brothers and their associates fourteen years ago, that the place has long been familiarly known as Ayres Park. Now it is to be in reality a park, to be developed as such for the use of all that study or love nature and outdoor life. The Ayres Brothers, Hoyt & Company have added \$100.00 to their contribution for this purpose, making in all \$300.00.

The entire new Arcadia will contain more than three acres. This, which is more than six times the size of the present Arcadia, will give room for the development of many of those special features that interest visitors, and space, too, for a small colony of nature workers, that will occupy portable buildings, log cabins and tents. The first to engage space for this purpose is Mrs. Fannie E. Blakely of Wisconsin. The site for her portable cottage has already been assigned near the new Arcadia Assembly Hall, and foundations have elsewhere been made or planned for eight other buildings.

A Country Asset Not a Country Liability.

At one time it was almost the general notion among farmers that picturesque shrubbery and wild flowers by the roadside were the sign of a "slack" farmer, and the enterprising man consequently kept the roadsides closely trimmed from fence to fence. In due time, especially after the evolution of the modern interest in nature, and in country life in general, he learned that these wild plants are not weeds, since a weed is a plant growing out of place, for these were exactly in place and where they should be for the decoration of the highway. But unfortunately there are farmers who have not yet realized that especially to the city resident these roadside decorations are among the most attractive features of the country, and in many places may

yet be found the man, who with scythe and bush hook ruthlessly destroys these wild roadside gardens.

The farmer's greatest asset is the city man and woman who are attracted to the country, and who live either in the country or else in an adjacent city or village from which they may make frequent trips along the rustic and picturesque roads. If the farmer would rise in the estimation of such people, or would induce them to buy his farm at a sum that might enable him to retire and live in luxury, or if he would attract them to the neighboring homes, hotels and boarding houses where they will use his products, then he will leave untouched this his greatest and most alluring asset.

The nature lover has yet much to accomplish in this direction. It seems strange that it should be necessary to urge any one to protect, not to devastate the beauties of the country. Strange, isn't it, that the artist, and the naturalist who always has an artist's eye, see here inspiring beauty, and one of the richest assets of the farmer or owner of the land, while the farmer himself thinks it a liability that will detract from the value, not only the actual value but the market price as estimated by the passer by?

Leave the roadsides unmolested. There is nothing better in cultivation than the beauty of these natural wild gardens.

Will our members and readers please report to The Agassiz Association the name and address of any farmer who is devastating his roadside and detracting from the farm's real worth, so that we may write him a letter of appeal and urge him not to continue the pernicious practice?

Contributions to New Arcadia.

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A Friend, Sound Beach, Con- necticut	10.00
Mrs. James E. Martine, Plain- field, New Jersey	1.00
Judge N. C. Downs, Stam- ford, Connecticut	1.00
Total	\$2,057.27

Please let us have your contribution in the next list.

NOVEMBER

VOL. IV.

1911

No. 7

THE GUIDE TO NATURE



THE FROST "PLANT" IS "SPROUTING"

Photograph of a window pane, by Harry G. Phister, Vernon, N. Y.

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

The Agassiz Association, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c.

Entered as Second-Class Matter, June 12, 1909, at
Sound Beach Post Office, under Act of March 3, 1879

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We shall be glad to show intending purchasers through our nursery, as we think it the proper way to see the stock in nursery rows.

Our nursery is located on North Street near the Greenwich Country Club.

We have made a specialty of laying out new places and remodeling old ones, as our records from both sides of the Atlantic will show. Training and long experience have taught us to do this work in the most artistic and effective way. Trees, shrubs, flowers and specimens in lawns must be placed so that they will harmonize, give shade where wanted, hiding unsightly places, but leaving vistas and making display of flowers and foliage and other worthy objects.

We may here mention our connection with the World's Columbian Exposition, the Brooklyn Park Department, the Arnold Arboretum, Boston, and many private parks in and around Greenwich.

GREENWICH NURSERIES

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LANDSCAPE GARDENERS AND NURSERYMEN

GREENWICH, CONN.

AN INVITATION.

By Fannie E. Blakely, Arcadia: Sound Beach, Conn.

Come to Arcadia's meadows,
Come to the grove's cool shadows
Where Nymphalia's blackbird *staccatos*,
Down at dear Sound Beach.

Come to the long bright reaches
Of the wind in the oaks and beeches,
And learn what Arcadia teaches
Down at old Sound Beach.

So potent the thought that's behind her
That, heeding its gentle reminder,
The very mosquitoes grow kinder
Down at dear Sound Beach.



Come where the breezes of healing
O'er the salt marshes stealing
Bring the sound of the fog bell's pealing
Down at old Sound Beach.

Come one and all and go sailing
When waves on the sands are wailing
And ships on the Sound are hailing
Down at old Sound Beach.

Come with the landsman and seaman,
With bird man and flower man and tree man,
Where even the rich man's a free man,
Down at dear Sound Beach.



THE HOME OF F. OPPER, CARTOONIST AND FUNNY MAN, NEAR TO NATURE.

Then will you feel that mankind are unhappy only as they wander from the simplicity of nature and that we may regain our lost paradise as soon as we have learned to love nature more than art, and the heaven of such a place as this more than the world of cities and palaces.—*Wilson Flagg.*

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

NOVEMBER 1911

Number 7



When the Funny Man Goes Farming

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



I WANTED to know what the funny man does when he leaves the city and goes to the country for farming. Those that are to the country born are inclined to laugh at the city man, but it would seem especially appropriate to laugh at the man who has made us laugh. At the very best there are some ridiculous things in connection with the professional man's entrance into the backwoods, to raise chickens, cultivate pigs and, incidentally, according to some magazines of suburban or country life, to cancel the mortgage or to pay the rent. It must be confessed that not every one has ability enough to do even that simple little thing implied in raising house-

hold supplies and not make a mess of it.

Mr. Frederick Opper, the well-known cartoonist and comic artist of the "New York American," has taken about every subject under the sun on which to be sarcastic or funny, and he is an adept at both, and furnishes the "New York American" with three or four cartoons a week besides two or three pages of comic matter. It would be interesting to picture such a man trying to adapt his city born genius to the exigencies of a country farm. So I went to see him. The result was surprising. I found that he was not city born and bred, and when I learned that I supposed, of course, that he was making a great success at farming, but to my amazement I found that he does



A QUAIN OLD TIME HOUSE JUST ACROSS THE ROAD.

nothing at all in the way of farming. He lives in the country, he walks around, smokes his pipe and thinks thoughts that are long and intricate with the juxtaposition of incongruous concepts. Unlike the common conception of the man who has to originate several pages of new material every week, he does not put both hands under his chin with his elbows on the table

and think a thought, nor does he run his hand through his hair in a desperate search for another thought. He just dreams. He takes his dogs and goes for a walk and finds some huge boulder in the orchard where, like the time-honored Josh who when asked what he did in his spare time replied that mostly he "sot" and thought but sometimes he just "sot." So I imagine it is with



"AND FINDS SOME HUGE BOULDER IN THE ORCHARD."

Mr. Opper. It is not always to be concluded when one sees him sitting cozily by the fireplace that he is evolving something that will revolutionize the political world, or rouse convulsions of laughter that will disrupt several buttons. He is just sitting and smoking. He is especially fond of doing that. He philosophizes and comes to conclusions, and one of the conclusions evolved, I suppose, from one of these fireside reveries is that farming for a cartoonist and comic man would be too funny for anything—so funny that it would obliterate all other fun or conceptions of fun.

he looked over the fence and saw the little pigs basking in the sun. He had read and philosophized on the subject that every farmer must keep several cows, make butter and now and then a cheese or two, have milk to sell to the neighbors and to supply a greater part of the city. All these things he had read and regarded as good as many another deluded city mortal has done when influenced by certain publications that throw the charm of the dollars over the landscape. But by and by he showed himself to be a real lover of nature because he threw away everything except nature. He bought an



WHEN ONE SEES HIM SITTING COZILY BY THE FIRESIDE.

Mr. Opper tried it for a year or two. He had read books and he knew how. He had been told that the ideal is to buy a farm anywhere in the country, where most farms are, move there, borrow or buy one old hen and soon have six or seven hundred chickens and a liberal bank account. He had read that a horse and carriage is the ideal pastoral method and if one expects to get near to the heart of nature on many country roads several horses and several carriages would be better. He had read that the scraps from the table would support numerous pigs which would afford joy and satisfaction when

automobile and he buys eggs and milk. He has no farmer's cares or worries because he has no farm. What was the chicken yard is now a beautiful garden kept decorated by nature, and I fancy that he gets more satisfaction from a walk down the country lane with the ladies of his household and his two ever present dogs than he would get if he should see a herd of cows coming down that same lane.

Mr. Opper's use of the farm is to live on it and love it and not worry about it. It did seem a little funny at first but then what must one expect of such an original funny man. There would



"HE GETS MORE SATISFACTION FROM A WALK DOWN THE COUNTRY LANE WITH THE LADIES OF HIS HOUSEHOLD AND HIS TWO EVER PRESENT DOGS THAN HE WOULD GET IF HE SHOULD SEE A HERD OF COWS COMING DOWN THAT SAME LANE."



IN THE OLD-FASHIONED DINING ROOM.

be something out of place if he did things as one in his situation would naturally be expected to do them.

As we walked across the fields an old hen ran from under the shed. To

her he pointed with pride and said, "There is what is left of my flock of hens." As we passed by the barn and over the stone wall where was a beautiful stile I said, "I suppose this lane



IN THE STUDY.

Working out the humor to make people laugh while he is as solemn as an owl.



GOING DOWN TO THE BROOK.

Many of us need to "let down the bars" to really get into the realms of nature.

is for the cows that supply your home with overflowing pails of milk." I then learned the funny situation that he is a real Thoreauite in that he does not milk cows but the heavens and the earth when he wants inspiration, and that lane is the road to such places of inspiration. "But don't you do any farming?" I insisted. "No," he said, "I just like to walk around and dream about things. I shouldn't want to be bothered with farming, not even with raising our own garden 'sass,' but I have one thing that belongs to real farm life and that I want to show you." He took me to the old-fashioned dining room where he went into ecstasies over the old-fashioned fireplace. "Here," he exclaimed, "is the greatest rest I have. I like to sit here and watch the flames and think of the long ago. I am a lover of the antique, I like things that suggest dreams of the past. I do not like the turmoil and the hustle of active farm life. I want to stand near the brook and let the water run by and have the other fellow use it on the water wheel. It is enough for me to see and dream and think and enjoy."

Here seems to be a somewhat ludicrous situation. A man that went from the busy city to a farm, and probably made himself a target for ridicule from

his country neighbors. "Ha, ha! he couldn't do it. Doesn't know how. Gave it up and just lives there." Little do they know that he is after all farming to the best advantage.

So laughed the neighbors at Henry David Thoreau of Concord, when he left that little village and went to live in a cabin by a pond. There he did not enter into extensive rural occupations but dreamed and philosophized and influenced the world more than he could have done by the bustling activities of an active agricultural life.

By sticking to his profession and living in the country, Mr. Oppen has done the wise thing. I believe that many a city man fails to get all that he might from his country home because he puts around and over it the glint of the dollars.

"Can We Make the Hens Pay?" "Is It Worth While to Keep a Few Pigs?" "How Much Hay to an Acre?" These and other questions are discussed in some periodicals that are urging people to go to the country. But this magazine is a magazine of guidance to nature, not to suburbs, nor to the country, nor to the economic phases thereof. It believes that a serene, care free love of old Mother Nature is the best. Do not leave

the city as a professional artist to become an amateur farmer, because there is danger of your becoming by and by a professional farmer and an amateur artist. If you have a good practice in law or dentistry or clothes or drygoods, stick to it and do that work with all your power. Make the country not something to add to your care and trouble but a source of refreshment. Do not fret over the man in the garden; sit down on the rock and let the garden grow up in a profusion of floral riches. Do not trouble yourself about the best ration for the cow. Buy the good bottled milk fresh from the box of cracked ice. Then take your pipe and sit down by the fireplace and look into the flames and there sit and think and sometimes only sit.

These are the lessons and guidance to nature that come to me and our readers from the home near to nature of Mr. Frederick Opper, cartoonist and funny man, and through his fun and

through his ludicrous method of farming as well as through his ludicrous portrayals in the well-known metropolitan newspaper he often teaches a lesson that is deeper in seriousness than it is in fun.

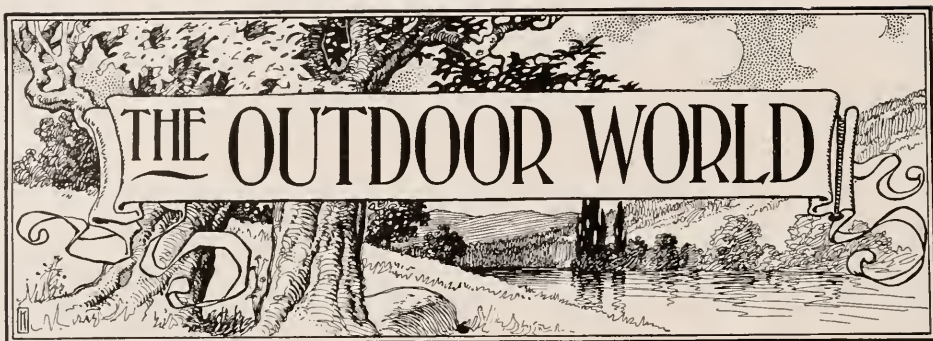
PEACE.

By Helen Gilkey, Seattle, Washington.
 Across the fields the evening shades are creeping,
 The din and clamor of the long day cease,
 The sacred calm, the dusk, and droning cricket
 Speak to my waiting spirit, "Peace."
 When wildly o'er those fields dark storms are sweeping,
 Fierce tempests surging on with mad increase,
 Chord Thou the notes, Oh Father, and from chaos
 Bring Thou the golden strain of peace.
 The grand notes linked in harmony majestic
 From end to end of Life's keyboard shall roll;
 The "peace of God which passeth understanding"
 Shall vibrate in each waiting soul.



FORTUNATE ARE WE IF WE ALSO CAN STAND BY THE BROOK BANK OF LIFE AND SEE
 SWIRLING CURRENT GO BY.

But, Oh, how many things float on the surface!



A Beautiful Mirror Lake.

When the throngs of busy people go riding by the Greenwich, Connecticut, station situated in the business

part of that town, and see Long Island Sound only seemingly a short distance away to the south, little do they realize that between the railroad and the



A ROCKY EDGE OF THE FOREST MIRRORED IN THE LAKE.

Sound is a stretch of wild, marvelous picturesque forest in which is a lake whose beauty and mirroring qualities rival or even excel such world famous places as Lake Tahoe of California. It was fittingly named "Mirror Lake" by Joe Jefferson.

There nestling between the wooded hills of the north and the precipitous ledges of the south, is a lake that mirrors the clouds and the surrounding leafy arches, the boles of rugged trees

inspiring surroundings a rest from the cares of a rushing, bustling world. Only a comparatively short distance to the north express trains go hurrying by, local trains come into the station and transfer innumerable passengers to hundreds of automobiles or to equipages drawn by prancing horses driven by men in sumptuous livery. In no place that I have ever visited is there such a striking contrast between the rush of business and the dreamland of



A RUGGED BLACK BIRCH THAT HAS SPLIT THE LEDGE.

the graceful alders and birches, that together form a bit of beauty elsewhere unexcelled.

No wonder that Commodore E. C. Benedict enjoys this lake and perhaps takes more pride in it than in any other part of his beautiful acres at Indian Harbor. Even one of less aquatic tendency than the genial Commodore would find these harmonious and

quiet nature. At the station are the accompaniments and calls of the business and residential world, while here are mirrored clouds and tall, gnarled trees from which the fishhawk watches for its prey and when disturbed at its peering into the inverted sky it utters a cry of defiance and flaps leisurely away toward the south.

The lake is partly artificial but so



IT WAS RIGHTLY NAMED MIRROR LAKE BY JOE JEFFERSON.



“RESTING ON THE OARS” IN THE BEAUTIFUL INDIAN SUMMER AT THE MIRROR LAKE OF INDIAN HARBOR.



AWAY AND AWAY INTO DREAMLAND.
You can see the rower going either to left or to right—by turning this mirror photograph.

THE PRECIPITOUS AND PICTURESQUE ROCKS OVERHANGING THE LAKE.



skillfully was art applied and so kindly has time covered every trace of it, that one would little think that the lake was other than natural or that it is really a little lake and marsh transformed. It was necessary only to build a low dam on the southern side and skillfully to hide that dam by rocks now covered with moss and lichen to give the beholder that enchantment rarely present except in a wild lake or remote forest. The lake has been bountifully stocked with bass and here comes, as has been previously stated in this magazine, the nature loving owner to find his greatest joy in feeding them. He also takes pleasure in rowing the boat in a quiet, contemplative manner over this watery mirror. This is real nature study, real communion with the natural. A pretty fancy of the Commodore's was to letter on the edge of an overhanging rock, "Shelter for the Fish when it Rains." And the best part is that it is true, because not only when it rains but in fair weather one may see many fish gliding leisurely in the waters below the lettered rock. Above this stone on the broad embankment is a group of interesting green mosses that would bring almost a scream of ecstasy from the lover of such cozy natural retreats. The most beautiful things in nature are not always far away, or accessible only with difficulty, but when left unmolested she now decorates the nook as skillfully as she did in the days when the Indian's moccasined foot stepped along this way. Skill in natural decoration is to give nature full scope and then let her alone. She seems to dislike to be disturbed by the hand of man and over man's efforts she spreads a mantle of harmony and softly blended colors. This lake is one of the best examples that I have seen. In walking through the forest one comes upon it with a surprise as upon an undiscovered country. The local impression is that of a scene far removed in the northern woods, and the observer has a mingled sensation of pleasure and of wonder when standing on the shore and looking across this dreamland hears at the same time the sound of the locomotive whistle.

Minds Running in the Same Channel.

While riding on the trolley car recently I said to Mr. B. M. Ayres, my companion, that great minds run in the same channel. The remark was suggested by some little event, but Mr. Ayres replied, "Yes, and that reminds me of a curious incident in which I and a fox thought just alike." Mr. Ayres, let it be explained, has a country home where the surrounding territory is in the primitive wild. Occasionally a fox makes depredation on the hen yard. About ten o'clock in the forenoon Mr. Ayres heard a commotion among the hens and going to the chicken yard found that a fox had attempted to kill a hen and had left a multiplicity of feathers on the ground. The fox, which, by the way, had a body with peculiar yellowish spots and a gray tail, also grayish underside, ran away as Mr. Ayres approached.

Mr. Ayres returned to his occupation and at about two o'clock in the afternoon it occurred to him to take another look at that hen yard. He went down there and to his astonishment met the fox at the same place as before. The fox had undoubtedly also made up his mind to investigate the hen yard at exactly the same time as Mr. Ayres decided to do so.

THE SLEEPING GARDEN.

By Miriam Brower Jacobs, Greenwich, Conn.
 'Tis slumber time in my garden now,
 Its greenness gone and its fragrance fled,
 The dry grass trails in untrodden paths,
 And brown leaves cover each quiet bed.

Lone silence reigns in my garden now,
 For the myriad folk that crawl or fly
 Have hushed their voices and crept away
 And only the wind croons a lullaby.

Gray stems are left where the lillies gleam'd
 In stately splendor thro' sunlit hours,
 And blacken'd stalks with their seed-pods
 show
 Where hollyhocks flam'd mid the ivy
 bowers.

Of what are they dreaming in songless sleep
 Beneath the folds of the drifted snow?
 Of crystal dews, and shimmer of wings
 And the thrush's note in the twilight glow?

Bereft, I bade them a brave good night,
 And wav'd farewell in the autumn gloom,
 But, held in my heart, my jasmine vines,
 My roses and myrtle still live and bloom!

The Gilbert Farm—Past and Present.
BY A. J. PIERPONT, WATERBURY, CONN.

The Gilbert Farm at Georgetown consists of three ridge farms comprising two hundred and fifty-two acres situated east of Georgetown station. Mr. Gilbert was much interested in agriculture and especially in live stock. He began to develop the farms to breed Hereford stock. Unfortunately he died

before his plans matured. Before his death he called some of the trustees of the Connecticut Agricultural College to his home and asked them if they would accept his farm and carry out his plans. He then willed the farm and sixty thousand dollars in the Gilbert G. Bennett Manufacturing Company's stock to the Connecticut Agricultural College. The income from the stock is



BEAUTIFUL, HIGH GRADE AND WELL TRAINED OXEN AT GILBERT FARM.



SOME OF THE "BLOODED" BULLS AT GILBERT FARM.



SKILLED FARMERS AND THEIR DAUGHTERS HAVE "A PICNIC" AT GILBERT FARM.

to be used for maintaining and improving the farm, and for instructing in practical agriculture, especially the art of raising and caring for livestock. To

this end the Gilbert Farm Committee of the Board of Trustees have worked. Thus far the efforts and income have been spent in developing the physical



AN ATTRACTIVE AND INTERESTING COINCIDENCE IN THE ORCHARD.
Flowers and fruits growing beautifully together.

condition and fertility of the land, and in equipping the barns for a modern dairy business. The herd consists of one hundred head of fine dairy stock, Jerseys and Holsteins. The milk finds ready sale in nearly every market at fifteen cents per quart and cream at one dollar per quart delivered fresh by automobile delivery. Surplus milk is made into butter and retailed at fifty cents per pound. We have found that consumers are ready to pay a reasonable price for dairy products from clean, healthy, tuberculin-tested cows, handled under modern sanitary conditions. We hesitated before we allowed the state farm to do any mercantile business, and have been criticised by

ried on as directed by the professor in charge of those respective departments at Storrs, and by the work done largely by advanced students in the department in which he is especially interested.

A student is better fitted to cope with the problems of farm life either on a farm of his own or as a manager, if he has served a term at Gilbert farm. We endeavor to make the work as scientific and practical as well as instructive as possible.

The first Friday of every month is visitor's day when all who are interested in agriculture are welcomed at the farm and may inspect its work and progress. On that day a professor comes from the college at Storrs and lectures



THE MILKING MAID.

"'Nobody asked you, sir,' she said."

shortsighted friends for deciding in favor of the business. But we feel that we would not be demonstrating practical farming if we did not make a practical disposition of the farm's product, the sale of which nearly pays the running expenses, leaving the endowment for permanent improvements, experiments and instruction. We have also Shropshire sheep and Percheron horses and expect to establish a poultry plant, and to do some demonstrating in the way of orchard setting and forestry.

The various operations will be car-

ried from two to four P. M., and gives practical demonstrations. On November third, Professor J. M. Truemand had for his subject "Production of Market Milk." On December first, Mr. W. L. Ganigus will discuss farm horses and Connecticut sheep. Every one interested in modern farming is cordially invited to visit the farm on these days.

The photographs in this article were taken by Edward F. Bigelow. They are intended to be thoroughly "practical!"

THE CAMERA

A Plea For A Camera For The Boy.

BY WILL D. KYLE, FORT WAYNE, INDIANA.

Through the medium of the camera department of *THE GUIDE TO NATURE* (the grandest and most valuable magazine of its kind published in the world), I desire to address the "grown-ups," namely, the fathers, uncles, mothers, aunts, Sunday-school teachers,

him on trips in the country or along the river, and show him how to look at a beautiful water scene and "imagine a frame" around it, and how to judge it on the ground-glass, and if you never do another thing in the world to help that boy, the chances are ninety-nine to one that he will be "safe." As long as he is interested in pictures and



"SHOW HIM HOW TO LOOK AT A BEAUTIFUL WATER SCENE."

day-school teachers and "boy workers" in general, in regard to "that boy" or "those boys" in whom you are interested, in order to make a plea for the camera as one of the best possible instruments to get the boy in line and to keep him there. Teach him how to use a camera, how to develop plates or films, how to get the best possible prints from his negatives, how best to select subjects for his pictures; take

knows how to produce them right, you will not catch him behind the barn smoking cigarettes, or spoiling his future manhood by yielding to any of the many other glittering temptations held forth to the boys of our large cities. In taking trips with a camera boys, singly or in clubs, will learn of "nature in all her different moods," and nothing in the world is so elevating, so refining, so sacredly delightful, nothing



A STUDY OF A PATH.



A STUDY OF A ROW OF TREES.



"SOME WILL GO INTO ECSTASIES OVER A LONE TREE STANDING LIKE A SENTINEL IN A CERTAIN EXPOSED POSITION ON A RIVER BANK."



A STUDY IN SUMMER.

so elevates our thoughts and increases our love for our Creator, as a study of nature's woods, flowers, birds, clouds, lakes and rivers. Dear reader, if you desire to get close to that unapproach-

able boy, get him a camera and developing outfit be it ever so cheap and and give him a start. Do I hear some one say, "Oh but just think of the expense of the spoiled material?" True



A STUDY IN WINTER.

enough, but isn't that boy's soul, his future, his development along right paths, his success or failure, worth infinitely more than a few paltry dollars? But even at that, in a short time, by triumphing over failures, he may with your help, if you study and show him how, make money out of the business to pay back the "awful expense(?)" In the September number of *THE GUIDE TO NATURE* are several photographic examples of some of nature's oddities or "freaks," which are always interesting to beginners, and even to old timers if the freaks are as good as those on pages 148 to 154 of the number referred to. The camerist is always on the lookout for something unusual.

There are many different kinds of pictures to be had, of different degrees of interest to different people, but that question will dispose of itself. Some will see beauty in an old rail fence, and such a picture will soon be a memento of by-gone days in some localities, and is already so in some others. Some will go into ecstasies over a lone tree standing like a sentinel in a certain exposed position on a river bank. Others will be delighted by certain forms of clouds,



ON THE LAKE.



THE CREEK'S SNOW MANTLE.

others with pictures of flowers, and perhaps with nothing else. Others again want to take pictures of people with whom they are acquainted, others are seeking for unique "genre" pictures, that tell a story. The field is varied, but no matter which is of especial interest to a boy, it opens up a new world to him, and will serve to make him studious and thoughtful, and will keep him out of mischief, if his interest is real. It can be of interest in winter as well as in summer, for with the advance in film and plate making, beautiful winter pictures are as easy to make as any. My friend, think it over, and weigh the future well-being of the boy against the little money it will take, but whatever you do, don't be stingy in the outfit that you buy for him at Christmas or on his birthday. Start him right, and you will never regret it. Should he, by any remote possibility, not be adapted to it or not take an interest in it, it cannot do him any harm, but the chances are much in favor of his being fascinated by it and of his "making good."

More Lens Argument.

South Norwalk, Connecticut.

To the Editor:

I admit that the ideal condition for all camera users is to own both a ----- and a ----- lens, and at some time I myself expect to own some kind of an anastigmat lens.

The fact, however, remains that the price is beyond the purse of the average amateur. Neither you nor I can force the majority of amateur camerists to purchase an anastigmat. Ridicule of the cheaper lens will in no way help matters.

THE GUIDE TO NATURE offers the field which might draw many of these camera users nearer to nature, and could if it would show them how they might improve their pictures with the means at hand.

To ridicule the one, and "sing praises to the other," smacks of commercialism and tends to antagonize the amateur, rather than to lead him toward better things.

Some other camera users with whom I have talked will not admit that many of the pictures appearing in the GUIDE TO NATURE, and ascribed to an anastigmat lens, are better, to say nothing of being seventy-five per cent better, than work done with other lenses.

Yours truly,
WILBUR F. SMITH.

Why bless your dear old rectilinear heart, my dear brother, I have never for one moment made the assertion that my pictures appearing in THE GUIDE TO NATURE are better than many taken by other users of the camera, even with much cheaper lenses. But I do assert that the pictures that I have taken with the anastigmat lens are one hundred times better than they would have been if I had taken them with a rectilinear lens—that is, with the exception of a few subjects wherein the good qualities of the anastigmat do not seem especially to apply. I believe that what is true in my own experience is true of every other worker whether skilled or unskilled. I believe it is the duty of this magazine to get and to do the very best things. I believe that thoroughly good work cannot be done with poor tools. I believe that nature is worth studying with the best that is in us and with the best that we can obtain. It is not the mission of this magazine nor of this Association to make any one contented with anything in any respect short of the best. I am not acting in a spirit of commercialism. I believe that the percentage of profit is no larger on anastigmat lenses than on any others in competition with them. There are more houses making anastigmat lenses. Why? Is it because they are more easily made, more easily corrected, more easily used, but produce no better results? Hardly, I think. May it not be just possible that the competing manufacturers recognize the fact that results are better? If not, then why do they make such lenses to attract only the wealthy amateur, or the professional man who must have the best to succeed in his work? If work by the cheap lens is accepted by the expert

as equalling that of the high-priced anastigmat, then again Why? These manufacturers are experts in their business. They do not argue. They act. They know, and in the confidence born of that exact and positive knowledge, they act.

I have advertised in almost every photographic journal in the United States for clear, sharp photographs that shall mean something, and I have been deluged with a mass of extremely ordinary material evidently the work of defective lenses. Most subjects that are worth anything are moving. Motionless rocks and hills have no great popular interest. If a house is surrounded by trees the branches and the leaves are in motion. I do not get photographs that are good enough for publication from any except experienced workers who have good lenses. You may say that an experienced worker can do good work with a cheap lens. There are a few cases in which this is done, but taking matters as I find them, poor work goes with the cheap lens as commonly as dirt goes with poverty.

I am trying to improve nature photography but I have become convinced that I cannot do it without urging every naturalist to get a high-grade lens. I know it from my own experience and I know it from the work of hundreds of others whose productions come to my desk. I am trying to help the amateur to do better work, but if he has not zeal enough to make every possible sacrifice to get at least a small high-grade lens then he is pretty nearly a hopeless case. Theoretically good work can be done with a cheap lens, but practically it is not done to any great extent. Theoretically one could be very, very poor, to revert to a figure already used, yet use plenty of water and keep clean, but practically that is not true. Extreme poverty and filth are generally mingled. I presume it is not poverty that makes the filth, but that dirt and poverty are due to the same cause. I note always, as in your case, that whenever one does good work with a poor lens the determination is to get a good lens and do bet-

ter. I think the determination after all is the keynote to the whole thing. I can imagine that when a very poor person determines to keep clean that some other good things will accompany the cleanliness.

I cannot imagine any one in any condition struggling harder nor making a greater sacrifice to get an anastigmat than I did for my first. Perhaps the result of the struggle and the determination are as valuable as the finer piece of glass.

In urging the purchase of a better lens, I would make just one exception. If the camerist cannot afford the luxury, and will not use the lens to produce pecuniary results, he should not buy it. To "scrimp" one's family for the purpose of furthering one's personal enjoyment and gratification is a sin. But I am not speaking to such persons. I am addressing either the one who can afford the luxury, or the one who really needs the lens to increase his ability to earn money, and so increase not only his own happiness but that of his family. As I now look back on my own years of struggle with a rectilinear, I realize that that was an unintentional sacrifice of my family. My camera never became a bread winner till it had a first-class lens. I am not cruel in urging discontent with mediocre tools, and I firmly believe that the rectilinear is mediocre. I shall probably never be able to afford what now seems to be a "luxury," a camera that will not be required nor need to increase my income, but I do hope to have for many years enough ability and energy back of an anastigmat to make it pay a profit and thus to help in the necessary bread winning.

If we, as teachers, can fix in our pupils the health habit, the study habit and the work habit, we have given them the key to every good thing that life holds.—*Elbert Hubbard*.

Increased means and increased leisure are the two civilizers of man.—*Ben Johnson*.



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

REPORT OF SIX MONTHS' PROGRESS IN THE RESTORATION OF ARCADIA

By The Agassiz Association and its Friends

Sound Beach, Connecticut

We are half way through. Let's finish it in a manner creditable to us all.

The AA has received aid sufficient to leave no doubt of its continued existence but it has not received enough to finish Arcadia in good condition or to free it from debts necessarily incurred.

THE PUBLIC HAS NOT FAILED IN SUPPORT.

November 16, 1911.

*To the Trustees, Members and Friends
of the AA:*

It is six months this forenoon since the surprising request to vacate the former Arcadia was received. We were informed that the owner had "decided to put the property known as Arcadia, to other uses." Upon those premises in necessary completion of buildings and in putting the grounds in good condition The Agassiz Association had expended \$676.54, as reported on pages 77 of *THE GUIDE TO NATURE* for June. This has never been paid though a list of the expenditures was rendered, in compliance with a request.

Notification to the general public of the calamity of the AA was first made by courtesy of "The Stamford Advocate," and later by "The Stamford Bulletin," Greenwich newspapers, *THE GUIDE TO NATURE* and various other magazines and newspapers.

The response was immediate and when the June number of this magazine was issued it contained a list of cash contributions to the amount of \$1,144.25. This has since increased as per the following financial summary. The entire former Arcadia property, including the AA expenditures upon it, was

gift-deeded to The United Workers of Greenwich. That organization on July 3rd, by call of a committee of two members, notified the AA that it was their intention to present the buildings to the AA. Later this intention was confirmed and formal notice was received. This gift was a complete surprise, as up to July 3rd your president had not even dreamed that such a thing could be possible. It was wholly voluntary on the part of The United Workers, and that organization has the unbounded gratitude of every member and friend of the AA.

When this gift was received the *foundation* for a proposed office building, of about half the capacity of the old buildings, was nearly completed. The contract for that work was completed and payment for it was made. It is now proposed to change the plans for this building to a one story Assembly Hall and nature museum at a cost of about \$1,500. We ask contributions for this purpose.

The nursery stock, set out by the AA, was retained by The United Workers, and with the fence and land was sold to Mr. James Maher of Greenwich. Mr. Maher very generously and kindly gave a necessary extension of time for

the removal of the buildings. Much foundation material was contributed by three local people and has already been acknowledged, together with the cash contributions, in *THE GUIDE TO NATURE*. The financial summary for the six months is given below.

From all parts of the country, letters of encouragement and aid have been received. For these and for their kind words, personally and on behalf of the AA, I am grateful beyond my power to express. I submitted the case to the public, with the correspondence, without argument. With the just verdict and the practical approval of the work of the AA and of its president I am well pleased and much encouraged in my efforts to meet future problems.

In spite of the calamity of six months ago, of the innumerable discomforts and disadvantages of living and carrying on work in a series of buildings that were traveling across the fields, notwithstanding the bills to be met and the many problems of the immediate future in connection with the completing of the new Arcadia, this Thanksgiving day will be a grateful and hopeful one to your president, and to the members of his family who have so loyally and faithfully aided him in the terrible struggle for the continued existence and efficiency of the AA.

Hopefully and faithfully yours,
EDWARD F. BIGELOW.

FINANCIAL SUMMARY OF NEW ARCADIA.

Sound Beach, Connecticut.

November 16, 1911.

RECEIVED.

Sound Beach—in addition to foundation material from three local people	\$ 407.07
Greenwich—in addition to the buildings from The United Workers	500.00
Stamford	1,165.50
Elsewhere	602.05
Paid in Advertisements	18.11
To be Paid in Advertisements	102.04
The Bigelow Family—loan ..	680.47

Total\$3,475.24

Details of the contributions have been acknowledged in *THE GUIDE TO NATURE* and in the local papers of Greenwich and Stamford.

PAID.

Land	\$ 710.00
Foundations and Grounds ...	1,052.23
Lumber, Hardware and Carpentry	922.88
Plumbing	139.95
Moving buildings	425.00
Correspondence Expenses ...	95.44
Painting—labor	76.54
Electric Lights—restoring, wiring, etc.	53.20

Total\$3,475.24

The books, bills and receipts at this office are open to the inspection of any Contributor or Member of The Agassiz Association.

YET TO BE PAID.

Bills for material furnished and work now in progress, about	\$ 500
Estimated cost of proposed Assembly Hall	1,500
Due on land	1,090

Total\$3,090 .

CONTRIBUTIONS.

Previously acknowledged	\$2,599.27
Honorable D. O. Wickham, Cleveland, Ohio	5.00
Mr. William L. Marks, New York City (Increase, total of \$150.00)	50.00
Mr. W. A. Bentley, Jericho, Vermont	1.85
"The Kids," Sound Beach, Connecticut	5.00
Mr. Belmont Odell, Watertown, New York	1.00
Miss Belle Ferris, Sound Beach, Connecticut (Increase, total of \$3.50)....	2.50
Dr. Elizabeth Finch, Sound Beach, Connecticut	5.00
Reverend Howard A. Johnston, Stamford, Connecticut	5.00

Total\$2,674.62

What Nymphalia Is.

WHAT IT MEANS TO STAMFORD, TO SOUND BEACH AND GREENWICH.

The word Nymphalia was devised to name that delectable tract of land that the New York, New Haven and Hartford Railroad Company has gifted to The Agassiz Association. This land, this Nymphalia, is a part of the new and greater Arcadia on Arcadia Road, where the new Arcadia has a frontage of three hundred feet. Nymphalia is bounded on the east by the golf links, on the north by the railroad, on the west by building lots, on the south by Arcadia Road, so that it is probable that Nymphalia will for all time on all but one side be Arcadian in character and surroundings.

Aside from Laddin's Rock Farm, new Arcadia undoubtedly has the most natural beauty of any place in Sound Beach, and is the most picturesque part of that region; and for ease of access it cannot be excelled on the Connecticut coast.

But what is Nymphalia?

And some one that has seen it from a distance replies, "Only a marsh by the railroad track." That appears to be right if you have seen it only from the station or the railroad track. But if, for two years, you had studied it in all its parts and at all seasons, as the writer has studied it, you would exclaim, like Thoreau when he came out of the swamp, "It is the *sanctum sanctorum* of nature interests." Only a naturalist in rubber boots, or a barefoot boy searching for frogs, knows how interesting a swamp or marsh may be. Some people do not go barefooted nor wear rubber boots. They may have white kid slippers and gloves. The naturalist wishes to reach everybody everywhere. He wants a place easy to get to by road, railroad or trolley, and then conveniences to take the guests right into, yes, right into the swamp if you please.

This swamp and meadow and the purposes for which the AA intends to use them were investigated by the railroad authorities. The more they investigated, the more thoroughly did they

approve of those purposes, and the more eagerly did those generous men desire to help. The result is Nymphalia.

Of course the Nymphalian idea is new. But for that reason it will appeal with greater emphasis to those who believe it is possible to accomplish new things. If Nymphalia in its situation and its plans is unique, then greater credit is due to those that conceived it, and greater interest should be incited in those so fortunate as to be able to use it, and to help in its development. It is not necessary to publish the details of our plans for Nymphalia. Some we have in mind, others suggest themselves as the work progresses. In the main the intention is to make swamp and meadow interesting, instructive and easily available to students and to the visiting public. There will be no admission fee. No salary will be paid for the time and thought expended. There will be no private ownership. Every dollar given by the public will be used for the good of the public. Money is necessary. We need trees, shrubs and a plank walk.

There is no fence around the new Arcadia. It will be permeated by a spirit of general ownership and cordial welcome.

But what does Nymphalia mean to Stamford, to Sound Beach and to Greenwich? Recreation, inspiration, education. Are not these worth while? Are they not worth more than dollars?

But Arcadia is worthy of your support, if for no other reason, certainly because it advertises to all the world the attractions and the natural beauties of this part of the Connecticut shore. Magazines sent out each month carrying pictures of the region, pictures that are works of art, cannot fail to bring returns. No half dozen Boards of Trade, combined together, have done as much for this part of the state as Arcadia has done in the last two years by showing the attractiveness as a place of residence.

Prejudice is the child of ignorance.—*Hazlitt.*

The La Rue Holmes Nature Lovers League

By George Kingle, Summit, New Jersey

"THE GUIDE TO NATURE" is the official organ of the LaRue Holmes Nature League. It is important, for the general League interest, that the magazine be liberally supported, through the active cooperation of League members—George Kingle.

L. H. Nature League Motto: "Self-sacrifice; heroism for another."

Interesting Habits of Pond Snails.

BY ALFRED C. KINSEY, SOUTH ORANGE, N.J.

When the name of a snail is mentioned, how general is the attitude to dismiss the topic as disagreeable!



THREE VARIETIES OF COMMON POND SNAILS.

Possibly that old characterization, "slow as a snail," has been part of the cause, but usually the thought is of the land slug, miscalled a snail, and disliked because of the trail of mucus left behind by the really beneficial animal. But speaking of the true snails, and, in these notes, particularly of the pond snails, family *Limnæidæ*, it can truly

be declared there are great delights in their acquaintance. The structure of a snail is so different from that of commoner life, while each species has such peculiar habits, that our interest will become strong. Again, these very pond snails are of economic importance. One species is active in eating insect larvae, while there is another which annually, especially in England, causes a loss of millions of dollars by serving as host to the young of tiny parasites which, when finally eaten, will kill sheep.

Almost every stream in North America will be found to contain plenty of the *Limnæidæ*. Usually the sand is thickly furrowed with trails which lead to the animals. These may easily be collected, and will live in almost any form of receptacle containing plant life on which they may feed. Since the creatures are not of high enough development to realize the change, many interesting notes may be taken by keeping a snailery.

Before noting some of their habits, it may be well to consider the structural characteristics of a snail. The shell, the most noticeable part, is the protective covering within which is the very soft body. The organs are small and very modified. There are gills for breathing; the digestive system consists of intestines opening from a very peculiar mouth with a tongue covered by many tiny teeth which rasp off the food; there is a heart with a circulatory system whose working may, in some cases, and particularly in the land snails, be observed through the lower surface of the shell! The senses, located almost entirely in the tentacles or "horns," are, with the exception of touch and smell, undeveloped. The rest of the body, the larger part,

is muscle used to move the animal with its shelly burden.

There are three important genera of *Limnæida*, each with universal distribution. The shells of the *Limnæa*, or true pond snails, are almost cornucopia shape, spirally oblong, twisting, as the shell is held with the apex up, from the right. The last whorl is large, with a rounded opening, the lip being quite thin. The shells average less than an inch in length. This species has ever had my dislike. If such creatures may be especially called lazy, these are the laziest. For hours they will not move, and when they do they drag along by means of a small foot, they progress slowly.

Likewise of inactive nature are the trumpet snails, *Planorbis*, coiled flat like a watch-spring. The most interesting thing about these is to see the shell carried upright by the small body.

In contrast to the above genera, genus *Physa* contains the athletes of the family. The shell twists from the left, forming a large, rounded final whorl. The body is very much larger than those of other species, the "foot" having a long mantle which extends the whole length of the shell. *Physæ* are amphibious, staying part of the time out of the water. Ever on the go are these snails, and they can get along at a surprisingly rapid rate. In all other respects they are also active, so most of the following incidents have been noted with the *Physa*.

As with most of the lower animals, the search for food is the life of a snail. Large plants are eaten by some species; the *Physa*, with extended foot, mows the algae, looking like a green scum, from the stones and plants. Within three or four days a couple of *Physæ* will thus clean off the glass of a large aquarium. But the pond snails (*Limnæa*) are, as I have explained it to myself, too lazy to even go after food, and I have seen numbers die because they did not make the effort to turn over to reach the food. An interesting fact soon noticed is that snails will clean off the algae from each other's shells. When they be-

come so engaged, they are hard to separate.

Another peculiar note is that a snail, so far as I can observe, is unable to go backwards; indeed the *Limnæa*, if left stranded above water, seems even unable to turn as do the other species.

A rather comical sight is that of a *Physa* walking on the water." Lying with shell down, they allow the foot to extend just beneath the surface, and by going through the usual walking motions, they will travel along using the top of the water as if it was a firm support.

Some Parrot Queries.

Is your parrot subject to fainting spells, when over-excited, or upon hearing a sudden noise? Try a change of diet. "Fatema," my macaw, kept the family in continual alarm, through such attacks, until we gradually increased the allowance of nuts, which were thenceforth dealt out in unstinted numbers a course resulting in changed health-conditions in which fainting found no place.

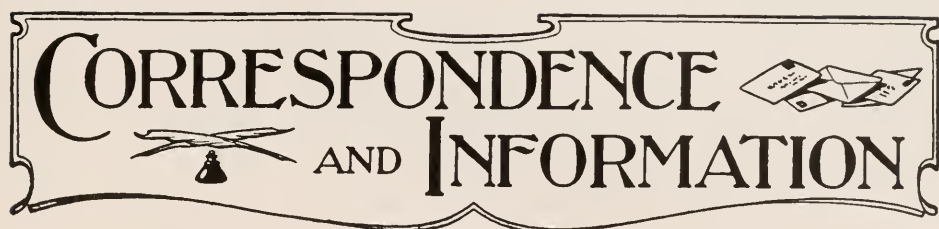
We sometimes refer to the words of parrots as spoken without reason. Why was it that Fatema never called "Papa" but when she knew him to be within hearing distance, or when she heard the distant rumble of the carriage which was bringing him—never except when he went to the war, at which season her lamentations in connection with his name, seemed impossible to any but some weeping child.

Why would she, if not invited to share his dainty morsel, call to him: "Papa I like it!" and if not at once considered, would repeat her appeal with emphasis, adding the jerky words, "Hully up!"

Why did she exclaim, from time to time, when being carried from the shadowy house to the open air and sunlight: "Oh look at the beautiful sun!"

Why would she laugh at the joke before others had time to do so, and startle one by applying words in proper places, all of the above being untaught?

CORRESPONDENCE AND INFORMATION



Regarding Double Apple Blossoms.
Franklin, Pennsylvania.

To the Editor:

The explanation suggested to account for the unusual apple blossom described and pictured in the October number of *THE GUIDE TO NATURE*, that it might have resulted from hybridization of the apple and a rose, is not correct; as the only way in which any result can be produced by hybridizing, is through the production of seed by the pistil parent, and the origination of a new plant from the seed.

There are persons who seem to think that the color of the flowers on such plants as geraniums, for instance, may be changed by simply growing near plants having flowers of different colors, without any seed production; which is absolutely impossible.

W. T. BELL.

Death of Charles E. Barnes.

Battle Creek, Michigan.

To the Editor:

I think you had some correspondence with my husband, so I am sending you a marked copy of a paper containing the notice of his departure from this life.

It will always remind us of him when the mail brings your delightful magazine, for he loved it dearly.

I am glad that you published my tree article while he was living, for he eagerly looked for it every month, and since his death I have found that copy carefully marked on the cover and put away in his desk for safe keeping.

The latest copy of *THE GUIDE TO NATURE* was the last magazine that he perused before his death.

Very respectfully,

ELLEN BARNES.

Mr. Barnes was a well-known student and lover of nature. From the first number he took an active interest in *THE GUIDE TO NATURE*. Personally, and in behalf of the AA, sympathy is extended to the bereaved members of the family.—*Edward F. Bigelow.*

Will Cheer in Good Efforts.

I am an invalid trying to use the balance of the life that now is. I am over busy for my strength and it is very hard for me to write. I will come and see you and will try to help you. There are a few things on my mind and heart to do first. In the pleasant weather which we will have in November I will come down and you or some of your family can show me Arcadia and tell me of your work on hand.

It may be that I can help cheer you in your good efforts. There is a great need of work along your lines and surely the means will be provided for it. Take courage, trust in God and stick to it.

Your very interesting magazine should bring you other good helpful visitors to push on the work.—*Reverend John Dooly, Great Barrington, Massachusetts.*

“Therefore am I still

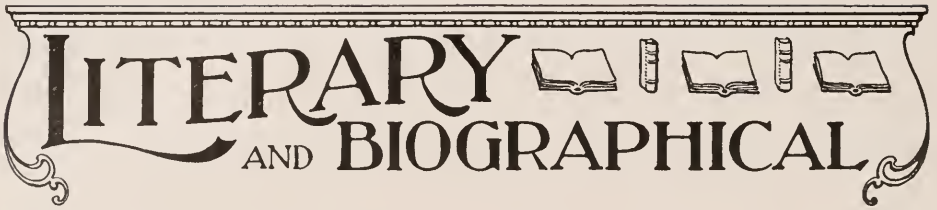
A lover of the meadows and the woods
And mountains, and of all the mighty
world.

Of eye and ear, both what they half create
And what perceive; well pleased to recognize

In nature and the language of the sense,
The anchor of my purest thoughts, the nurse,
The guide, the guardian of my soul—

The proof of a thing's being right
is that it has power over the heart;
that it excites us, wins us or helps us.
—*Ruskin.*

LITERARY AND BIOGRAPHICAL



Adorning The Beulah Land of The Hither Shore and How to Become an Extinguished Minister. By C. S. Harrison, York, Nebraska.

This is an interesting series of essays—some of them with much nature touch—from one of our faithful workers.

The Evolution of Plants. By Dukinfield Henry Scott. New York: Henry Holt and Company.

This contains an interesting discussion of the Darwinian theory as applied to flowering plants, and the different chapters treat of the seed plants and of the spore-plants from ferns to horsetails. It contains much very interesting material and many good suggestions as to the past history of plants.

The Spirit of Youth and The City Streets. By Jane Addams. New York: The Macmillan Company.

Jane Addams understands youth especially the youth of the city streets and she plainly tells in this book the things that are needed for their good. She evidently knows the dangers that beset their lives. It is well written, thoughtful and suggestive and of interest to every one who has at heart the welfare of boys and girls.

Myths and Legends of Flowers, Trees, Fruits, and Plants. By Charles M. Skinner Philadelphia: J. B. Lippincott Company.

The love of flowers and trees (and the dread of some of them) is no new thing, but has persisted in all ages and in all climes.

Flowers have therefore gathered about them many stories and have inspired many more. The love of them is incomplete without a knowledge of these legends, of such absorbing interest in themselves and their associations, and hitherto so difficult to locate in history and in literature. Mr. Skinner has gathered them together in the present volume.

The Age of Mental Virility. By W. A. Newman Dorland. New York: The Century Company.

Here's inspiration to you, middle aged man passing the half century mark. This book tells us that the best work is done after

fifty years of age, and so it behooves you, old fellow, to roll up your sleeves a little higher and get a firmer grip on things. It will not be time for you to stop efficient work for about thirty years. The book cites many examples of achievement in later years of life, notably that of Commodore Vanderbilt who between the ages of seventy and eighty-three increased the mileage of his road from one hundred and twenty to ten thousand and added about one hundred millions to his fortune. Quite a number of us will postpone adding the one hundred millions until after we are seventy years. We have not time for it now.

The Children's Library of Work and Play.

By John F. Woodhull, Charles F. Warner, Edwin W. Foster, Mary Rogers Miller, Ellen Eddy Shaw, Charles C. Steffel, Claude H. Miller, Fred T. Hodgson, Elizabeth Hale Gilman and Effie Archer Archer. Garden City, New York: Doubleday, Page & Company.

The titles of these ten books are as follows:

"Carpentry and Woodwork," "Mechanics—Indoors and Out," "Working in Metals," "Housekeeping," "Needlecraft," "Home Decoration," "Gardening and Farning," "Outdoor Sports and Games," "Electricity and Its Everyday Uses," and "Outdoor Work."

Here is a set of books for young people really worth while. It appeals to their activity and constructive interests. What to do with the boy is one of the hardest problems but is always solved by this one thing—keep him interested and busy in his interests. This set of books portrays a wide range of interests, mental and manual. The scope of the work comprises the whole boy—mental, moral and physical. It appeals to his esthetics and his activities.

The books, while mainly applying to the boy, have much of interest to the girl. Three of them are especially good; they are those pertaining to "Housekeeping," "Needlecraft," and "Home Decoration." The publishers have greatly benefited the young people in issuing these books and perhaps even more than that they have solved the puzzles of some parents who hear the oft-repeated inquiry, "What-shall-I-do?" The thing for the parent to do is very plain—order this set of books.



'Tis not in mortals to **COMMAND** success, but we'll do more, **Sempronius**, we'll **DESERVE IT**.—*Addison: Cato.*

With a Cooke Lens.

It is gratifying to learn that Mr. S. H. Lifshy, of Brooklyn, succeeded in winning the prize of \$500.00 offered by the Eastman Kodak Co., for the best work of a professional photographer. The negative which won this prize was made with a Cooke Portrait lens series VI of 13 inches focus.

An Interesting Catalogue of Projection Apparatus.

The Bausch & Lomb Optical Company have recently issued a new catalogue of projection apparatus of particular interest and value.

Recognizing the growing importance of optical projection in education, they have devoted a great deal of scientific and productive energy to this branch of their industry and believe that the results will speak for themselves.

Besides valuable introductory matter in the form of general information and tables for reference purposes, there are shown in this catalogue a complete line of BALOPTICONS, or high grade projection lanterns, and projection accessories, fully described and listed.

Every known form of optical projection has been provided for. Several new features have been introduced until no more extended or scientifically efficient line of projection apparatus is elsewhere manufactured.

God gives us always strength enough and sense enough for what He wants us to do. If we either tire ourselves or puzzle ourselves, it is our own fault. And we may always be sure, whatever we are doing, that we cannot be pleasing Him if we are not happy ourselves. —*Ruskin.*

Encouraging Words.

It seems to me (although it is saying a great deal) that in this October number *THE GUIDE TO NATURE* has fairly outdone itself!!—*Reverend Addison Ballard, Pittsfield, Massachusetts.*

PROFESSOR S. A. MITCHELL, DEPARTMENT OF ASTRONOMY, COLUMBIA UNIVERSITY, NEW YORK CITY.

Your fight for Arcadia is an interesting one, and I hope you will win out.

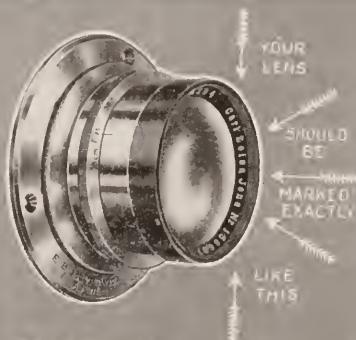
DR. WILLIAM E. RITTER, DIRECTOR SAN DIEGO MARINE BIOLOGICAL STATION, LA JOLLA, SAN DIEGO COUNTY, CALIFORNIA.

When Christmas presents time comes around, I will give two or three of my friends a year's subscription for "The Guide;" and will ask you to begin sending it to me here now. Wish I might do more in a money way to help on your good work; but seeing that I am in much the same troubles you are in, in trying to help out the "nature business," my wish to help you is much like the wish of the blind to help the blind.

Quinshipaug Woman's Club.

BY BELLE R. MANCHESTER, CORRESPONDING SECRETARY, MILFORD, MASSACHUSETTS.

The lecture recently delivered before the Quinshipaug Woman's Club by Edward F. Bigelow proved to be one of the most satisfactory in the entire course. Dr. Bigelow showed a thorough knowledge of his subject, "The Child and Nature," and the large audience gave the closest attention for an hour and a half. Many helpful suggestions were given by the speaker and we feel that much good may result.



E. P. Meyrowitz

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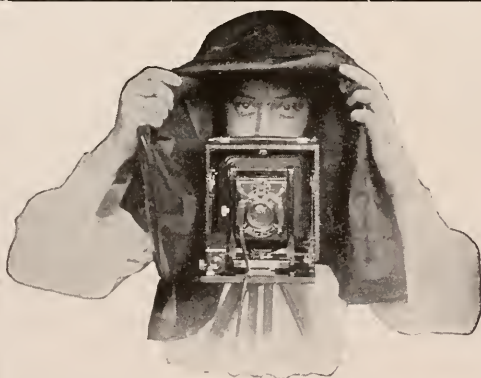
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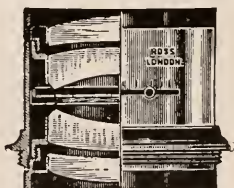
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THE GUIDE TO NATURE



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EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

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Founded as Journal of the Marine Biological Association of America, 1904; changed to present title, 1917.

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We have made a specialty of laying out new places and remodeling old ones, as our records from both sides of the Atlantic will show. Training and long experience have taught us to do this work in the most artistic and effective way. Trees, shrubs, flowers and specimens in lawns must be placed so that they will harmonize, give shade where wanted, hiding unsightly places, but leaving vistas and making display of flowers and foliage and other worthy objects.

We may here mention our connection with the World's Columbian Exposition, the Brooklyn Park Department, the Arnold Arboretum, Boston, and many private parks in and around Greenwich.

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Through all the wintry weather our kind Mother Nature keeps up a little conservatory in the woods, where anybody, at the cost of a tramp through the snow, may gratify the craving of his nature for a bit of green in winter, and may gather posies of refreshment.

Arcadia

If you are disposed to think that winter marks the death of the year you should take a closer look at the trees. What though Jack Frost has locked fast the ponds and lesser streams and goes roystering about the country with his boon companion, the north wind? Set thick upon the trees are the young buds of a new year's life—hope's candles to keep us in cheer until the spring comes.

—Charles Francis Saunders in "*A Window in Arcady.*"



MR. JOHN J. RADLEY'S HOME NEAR TO NATURE AT SHIPPAN.

It were happy if we studied nature more in natural things . . . the world wearing the mark of its Maker, whose stamp is everywhere visible and the characters very legible to the children of Wisdom.—*William Penn.*

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

DECEMBER 1911

Number 8



How a Potato Farm Furnished Homes Near to Nature

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



HE cry, "back to nature," of ancient times is now heard generally and almost everywhere. More than a hundred years ago a wealthy New Yorker delving in the cares of business in the city that was then youthful, heard it and felt the impulse. He was country born and bred, and though he had made a fortune large for those days, he felt that the thing most to be desired is to live in the simplicity of nature. Eastward from New York he went some thirty-five miles and bought a peninsula then not long from the hands of the original Indian owners. Here he built a home and while he did not farm the land, he for many years enjoyed his peninsula as Robinson Crusoe enjoyed his island—monarch of all he

surveyed. In time Moses Rogers ceased from his labors and passed into the unknown. But he could not endure the thought of having his beautiful country place divided or diverted into alien hands that would not value it as he had valued it. He wanted it to become a great estate and in accordance with that desire he tied it up as best he could till his youngest grandchild should become twenty-one years of age. But the heirs did not have the same appreciation of a country home and they leased the entire premises to Farmer Scofield who put all the beautiful acres to purposes more practical than esthetic and contemplative, for he made them into one great potato farm. So well and so extensively did he raise potatoes and so small was New York at that time, that it was a current state-



MR. JAMES S. HERRMANN'S HOME NEAR TO NATURE AT SHIPPAN.



MR. JAMES S. JENKINS'S HOME NEAR TO NATURE AT SHIPPAN.

ment that the yield of Farmer Scofield's potato farm controlled the price of potatoes in New York City. Farmer Scofield spared Moses Roger's favorite orchard, and to this day the gnarled and twisted trees tell of Moses Roger's love for apples and perhaps for cider.

Such is the white man's history of the land now known as Shippan Point which, in recent years, has been bought from Moses Roger's heirs and been divided into fine estates. A number of Stamford people, about twenty-five in all, and fifteen others from other places



MR. WALTER E. HOUGHTON'S HOME NEAR TO NATURE AT SHIPPAN.



MR. HOMER S. CUMMINGS'S HOME NEAR TO NATURE AT SHIPPAN.

have this last summer purchased lots in this potato field. At the present time fourteen houses have been begun or are in the process of completion. In one respect Moses Rogers's desire has been accomplished. He liked plenty of room, and so true to the spirit that presided over the ancient Point, no lot is sold that is less than one hundred feet front, some being fourteen hundred feet. The smallest on the shore is one hundred and fifty feet front.

Moses Rogers knew how to make money and to enjoy a country home. Farmer Scofield was thrifty, progressive and energetic. The present inhabitants of Shippan Point share in the characteristics of both Rogers and Scofield. Things are there well done in a thrifty and energetic way. For example, all wires are placed in the rear of each property, thus doing away as much as possible with unsightly poles. The Point is so easily reached by trol-



MANOR SCHOOL FOR BOYS AT SHIPPAN.
A healthful and beautiful location near to nature.

ley car and automobiles, the roads are so good, that it has successfully appealed to New Yorkers who want not only a summer residence but a permanent home on the Sound.

Shippan Point extends like a finger for more than a mile into the Sound and the water that surrounds it effectually prevents even the approach of all undesirable persons and things.

There are pleasing legends regarding the Indian history of the place, and it has been maintained that the name, Shippan, is from "ship Ann" of whose wreck on that coast interesting stories are told. But it seems probable that this is only a fanciful play upon the word. The Indian records give the name Shippan with occasionally a spelling of Shipend. Recently one of the developing companies exhumed an Indian skeleton, some pottery and arrow-heads on the McVickar place on Fairview Avenue. This skeleton was in a sitting position, thus showing one of the characteristic Indian methods of burying the dead.

Shippan to-day is an example of nature's handiwork improved for health, happiness and physical well-being. For those that want a home by the water, for those that prefer that phase of a nearness to nature, there can be no better spot. The various corporations developing Shippan Point have had the rare good sense to preserve all of nature's beauties including several gnarled and twisted trees that for their irregularity if for no other reason are interesting, like the face of a bulldog. Several groves have been retained in all their wildness and primitive beauty. The beach is made rustic with huge boulders, small stones and innumerable pebbles all of beautiful colors and varying sizes. For a nature lover it is indeed a place in which to revel in the wonders that every tide brings to the beach. Beautiful forms of marine algae grow here in profusion and there is probably no place along the coast where can be found a beach more interesting at low tide.

Civilization is first and foremost a moral thing.—*Amiel*.

The Modern Treatment of Diseased or Injured Trees.

Nearly every one knows the general principle upon which is founded the modern treatment of injured, diseased or unhealthy trees. It is practically the same as the treatment of human teeth. Every vestige of decay is thoroughly removed, the cavity is thoroughly cleaned and filled with solidifying material.



TRIMMING THE EDGES OF THE CAVITY.

The cavity in the tree is cleaned by the aid of carpenter's tools—principally, saw, gouge and hammer. It is then made "antiseptic" by a liberal application of tar, and filled with good cement which is held in place, while hardening, by a row of nails near the edge of the opening. The success of the work depends upon the skill of the workmen. Theoretically anybody can make and clean a hole in a tree, and any one can



CLEANING THE CAVITY.

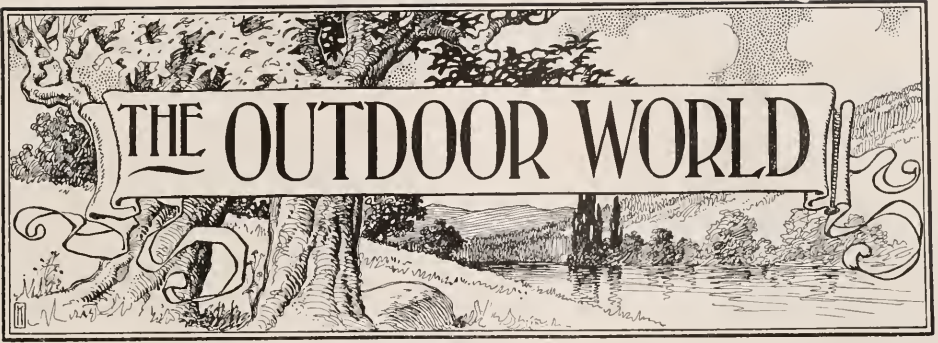
bore a hole in a tooth and fill it with any kind of hardening material, but such crude and unscientific treatment would result only in failure. I have greatly enjoyed watching The Frost & Bartlett Company's men treat a sick or injured tree. Every step in the process shows that they understand their profession, and an examination of work done by them three or four years ago shows by its result that their method is the right one. One of the most convincing proofs of this is the manner in which new wood is formed around the edge of the excavation made by their tools. This growth continues and in time would nearly if not completely cover the cement. The accompanying illustrations show more impressively than words can do the principal steps in the work, as well as the skill with which the work is performed. We cordially recommend the firm to all lovers or owners of trees that need attention.



FILLING THE CAVITY.



INSPECTING THE WORK.



The Charm and Beauty of the Wood Pile.

I sing the song of the esthetics of the wood pile leaving to the utilitarian its economic value. In the past the

country residence and should be maintained for that if for no other purpose. It harmonizes well with the lilacs and the roses and is far more decorative than the pot and tripod



"A GREATER JOY IN MEMORY OF MY BOYHOOD."

wood pile has been to all country people a necessity and is still so in many places, but it is gradually coming more and more to its own as a luxury and a decoration even when coal is used for fuel. The wood pile has its value in adding to the attractiveness of the

which suggests the wigwam and other concomitants of savagery.

So here's to the wood pile now a greater joy in memory of my boyhood than it then was in reality. When did the farmer's boy ever hear the summons, "Go and chop some wood and



BY RIGHT, HE CLAIMED TO HAVE THE BEST WOOD PILE IN THAT PART OF THE COUNTRY.

fill up the box," but that he at once had something else to do? But even in those days there was a certain satisfaction in seeing the chips fly, and in hearing the rending of the wood and the resounding thump as the armful was dropped into the box, filling it with concentrated warmth for a winter even-

ing. How the light from the grate brought out the charm that still lingers through the decades, with the recollection of the splintered surfaces, the bevelled ends of the sticks, and the flickering flames under whose touch the wood spluttered and hissed and snapped, and where the tufts of dry moss and



HE WAS ALWAYS GENIAL AND JOLLY BUT MOST SO WHEN SAWING WHITE BIRCH.

the patches of crisp lichens for a moment glowed red, then vanished in a puff of smoke and a pinch of ashes. It is a pleasing memory. To repeat the experience I would, if I could, go out at this moment and chop wood. I may have grumbled then. Do I grumble now when I remember? Not when I pass by "God's Acre," and remember.

The wood pile is the connecting link between autumn and winter. It naturally affiliates with the falling leaves, the ripening of fruits and nuts, and with the season's round-up of the

partridges, foxes, squirrels and rabbits; of tangled thickets, of deep recesses, of struggling vines and alders. These are all joy. But here is a pile that means the old tree that stood in the dooryard. That is not so pleasing. It tells of the songs of the swingers under the tree. It concentrates for winter evenings the shadows of the summer and of the past as well. So again here is to you, old wood pile, whether of the wilderness or the lingering memories or the old homestead. We will in imagination gather around your fire and proclaim



"A CERTAIN PATHOS ABOUT IT WHEN IT MEANS THE LOSS OF A LANDMARK NEAR THE OLD HOMESTEAD."

farming occupations. It is a finish to all as the back meadow was a finish to the haying season.

The wood pile is all joy when it comes from the depths of the swamp or from the hillside, but there is a certain pathos about it when it means the loss of a landmark near the old homestead. Whether its presence is to be loved or to be deplored does not depend on its own intrinsic merit, but on the source from which it came. Here now is a wood pile that tells of

that you were really worth while, dear old wood pile.

The Decline of the Lobster.

In spite of the most active possible hatching operations conducted by the Federal Government at three stations on the New England coast, and notwithstanding perennial attention from the State legislatures, the lobster has declined to an extent that causes much concern among those most interested in the welfare of the fisheries. This

most valuable of our crustaceans reached the climax of its importance in 1889 or 1890, since which time there has been no interruption to the annually diminishing catch, while the price has steadily advanced. The immediate cause of the decline was the absolute disregard of the lobster fishermen for the welfare of the species. There is no set of fishing laws that has been more systematically, ruthlessly, and unanimously violated than those designed to protect short lobsters and egg-bearing lobsters. These laws have been admirably conceived, execrably enforced. There is scarcely a hotel or boarding-house on the entire New England coast that has not had illegal dealings with the lobster fishermen. I have personal knowledge of a State fishery official who encouraged lobster fishermen to bring him short lobsters for his table. I have heard of a United States senator who secretly bought lobsters illegally caught.—*Scientific American*.

The foregoing was referred to Mr. Wilbur F. Smith, South Norwalk, Connecticut. He replies as follows:

"As I happened to be at Hartford yesterday I spoke on the subject to the secretary of the Commission of Fish and Game, who said that there has certainly been a marked decrease in the lobster supply during recent years.

"The present year has been an especially poor one with the fishermen, and I am told that one lobsterman who up to the first of June of last year had sold his catch for three hundred dollars had sold only fifty dollars' worth up to the same date of this year. There is a hatchery at Booth Bay, Maine, one at Gloucester and one at Woods Hole, Massachusetts.

"I should say that the part relating to the illegal taking of lobsters is pretty nearly correct, except that in reference to certain officials, of whom I know nothing.

"I have arrested several fishermen for taking both short and egg bearing lobsters and there have been several similar cases in the eastern end of the state. In a city near you an egg bearing lobster was served to a guest in

a well known hostelry, and the next day in the same place I found another lobster bearing at least forty thousand eggs.

"I apprehended a fisherman with eighteen short or illegal lobsters at Black Rock, Connecticut, getting my cue by overhearing a woman tell a responsible dealer that she did not want any of his lobsters at the market price as she could get such cute little ones at a lower price.

"While on my vacation in another state this year I saw more than a barrelful of illegal lobsters displayed with no apparent attempt at concealment. It is a well known fact that the summer resorts have been great sinners in this respect, as they are a market for short lobsters.

"The fishermen say that there are many small lobsters in the Sound this season, but so many men are fishing for them that they seem to be doomed to speedy extermination."

NOVEMBER.

By Freeman Foster Burr, New Haven, Conn.
November birdless? Through my apple trees
The tiny kinglets flit and drift away:

Like gymnasts swing the busy chickadees,
Combining earnest work with cheerful play.
Beneath the bark scales hunting up and down,
Nuthatch and downy ply their prying quest;
And where the green fields turn to gold and
brown,

The meadowlark displays his yellow breast.
Down through the dry-leaved oak tops by the
way

The flocking robins crash in swift winged
flight:

Where dogwood trees their scarlet fruit display,

The softly lisping cedar birds alight.

November without flowers? What are these
That in my lawn like golden stars lie low?
Far down the patch, beneath the leafless trees,
I catch the late witch-hazel's sunny glow:

And yesterday, beside a country way,
I plucked fringed gentians, bluer than the
eyes

Of laughing children, plucking, as they play,
The purple asters where the hill slopes rise.

November cheerless? Who can find it so
On such a day as this? With sky as blue
As any that midsummer day can show:
With winds that blow the cares of life away,
And puff them like dead leaves adown the
wood.

November has its smiles as well as May,
God made all seasons good.



THE HEAVENS

The Stars and Planets.

BY PROFESSOR S. A MITCHELL, COLUMBIA UNIVERSITY, NEW YORK CITY.

Written solely and expressly for "The Guide to Nature." Information on astronomical subjects freely given.—E. F. B.

There is no keener pleasure to the average educated person than an intelligent acquaintance with the heavens and the magnificent objects there beheld. The names of the beautiful stars as they change their places from night to night and month to month are readily learned by any one who is sufficiently interested to devote a little time once in a while to a study of the heavens at night. To add interest and novelty to the old familiar constellations, the planets are continually changing in brightness and position—wandering stars, as the Greeks called them. Occasionally, there flashes in the sky a brilliant comet with its wide flowing tail, and at such times every one is interested in astronomy.

There is always something new to watch in the sky, and these astronomical columns each month will be devoted to a simple explanation, devoid of technical language, of what is worth paying special attention to. No knowledge of astronomy will be necessary to read these lines with profit, but the more one understands the grand old science of astronomy, the more will he be able to read with pleasure and appreciate the simplicity and order revealed in Nature.

At this season of the year, the most beautiful portions of the whole heavens are held up in the evening sky for our inspection. At eight o'clock at the middle of December, we see on the horizon south of east the most brilliant fixed star in the whole heavens, the "dog-star," Sirius. North of east, and also near the horizon, we see another

first magnitude star, Procyon. To the west of Sirius and Procyon, is seen the magnificent constellation Orion with the three stars of equal magnitude forming the belt of the warrior. Higher up in the sky is the group of stars called the Hyades, with the yellowish star, Aldebaran, as its chief star, and still higher up, the Pleiades. Between these beautiful groups, the Hyades and Pleiades, is a brilliant yellow or reddish object, the much discussed planet, Mars. It was at its greatest brilliancy in November, when it was brighter than it will be for a dozen years to come, and it is now slowly on the wane. However, it will for many months be a magnificent object, and subject of close study alike to the professional and amateur astronomer. It needs no telescope to readily ascertain that Mars is not a fixed star, but it is changing its position. By noting its place with respect to the Pleiades, you will see that during December, Mars is moving westward among the stars till it gets west of the Pleiades (and a little south of them). On December 29th, the planet becomes stationary in the sky, and then reverses its motion and moves eastwards.

To the west of Mars is Saturn, the wonderful. It too was at its greatest brilliancy in November when it was about eight hundred millions of miles from the earth. The possessor of a small telescope will find a never-ending source of pleasure in watching the splendid ring system of Saturn.

The beautiful star in the east these cold winter mornings is Venus, and still farther to the east is giant Jupiter. It is worth while getting out of bed to see these two brilliant objects before sunrise.

Venus is so bright it may be seen in daytime if one cares to look.



Migrations of the Cotton Moth.

BY S. F. AARON, 246 S. 51ST STREET,
PHILADELPHIA, PA.

The city of Philadelphia this past season, during the latter part of September, received a visit from the well-known cotton moth, *Aletia argillacea*. The books record such instances, the visits of the moth in great numbers as far north as Canada and there has been some discussion as to the actual extent of the migrations. Though strong of wing, as are all of the family *Noctuidae* to which this species belongs, it is altogether evident that unless the insects in great numbers flew very high and were then favored by a hard and direct wind from south to north they would not be able to traverse a distance of at least a thousand miles, from the cotton belt to the 40th parallel and above it.

It is true that migrations of insects do occur for considerable distances. Darwin records flights of a species of butterfly for several miles over the ocean, *Pyrameis cardui* is known to fly in direct migrations for nearly a hundred miles, while the migrations of the milkweed butterfly *Anosia plexippus* are well known. The writer has observed a species of the *Pieridae*, *Kricagonia lyside*, migrating over the Southwestern prairie in enormous numbers and it was accurately determined that they traveled for over a hundred miles. Certain mosquitoes also, notably the Salt Marsh *Culex sollicitans*, for no apparent reason and apparently against its interests in the matter of propagation flies high during strong sea breezes, a habit altogether at variance to that of most species, and

it is wafted far inland where it can find no place to breed and from which it is quite unable to return. It would seem, therefore, that Nature does not always order things for the best in this regard and that without apparent gain certain species journey hither and yon for no apparent purpose. On the other hand we are acquainted with the long flights of grass-hoppers to greener fields and fresher vegetation and of many species of dragon-flies from arid to watered regions.

It is evident that the cotton moth caterpillar feeds commonly and often in great numbers upon wild plants probably related to the cotton plant and inhabiting the temperate zone. That this has not been positively recorded is not altogether strange; there is much unknown regarding the natural history of all but the larger and more economically important moths. That the species is occasionally very abundant in certain areas, like many other species, as the army worm, the milkweed butterfly, the tussock moth and caterpillar is due to the previous reduction in numbers of its parasitic enemies, from causes that have not been discovered. Probably epidemics of fungus diseases that commonly attack both the *Diptera* and *Hymenoptera* the orders to which the parasites belong, are at first responsible for the entire circumstances.

The cotton moths in this latter migration were all freshly hatched and perfect specimens when they first entered the city and its environs. They flew through the streets of the business center, swarmed about the electric lights and lighted windows, fell in

myriads upon the sidewalks and were tramped under foot by the hundreds and thousands. In some cases they annoyed the late diners in the hotels and the people coming from the theatres.

A friend counted over eighty in one restaurant window and as many dead on the sidewalk just without. That any specimens survived after coming into town is doubtful.

THE CAMERA

Some Good Work With the Camera.

One of our faithful nature workers is Mr. Frank Grafton, of Chester, West Virginia. He has learned the art of

good sitter although he was probably unconscious of the presence of the camera. But incidentally it conveys to us the important lesson that the



THE GROUND HOG WAS A GOOD SITTER—NOT A HAIR MOVED.

using a camera on things that are not only beautiful and interesting but that have one or more points of real interest. Take, for example, the accompanying photograph of the ground hog or woodchuck. Mr. Grafton informs us that the plate was exposed for about five seconds because of the lack of light at the mouth of the burrow and yet see how imperturbable is the woodchuck. There is not the slightest sign of motion. He was evidently a



THE ARCHED OAK.



IT "LOOKS AS THOUGH IT COULD BE PUSHED OVER BY A HAND."

woodchuck when still is absolutely still so as not to attract the attention of the enemy.

Mr. Grafton's photograph of the arched oak is not only a beautiful picture but is a remarkable example of a tree arch, that extends across the public road near Mechanicstown, Beaver County, Pennsylvania. The tree

grew up on one side of the road, formed an arch over the road and grew into the ground on the opposite side. It is about three feet in diameter.

The peculiar rock on the farm of Alex. Lowary, Jefferson County, Ohio, is a natural puzzle picture. Of it Mr. Grafton writes:

"It is one rock with another equally



THE ROCK WITH THE PECULIAR MARKINGS.

large set on top of it on a very small base and that looks as though it could be pushed over by a hand. The boy in the foreground gives some idea of its size."

Another puzzling rock is that with the peculiar markings. Mr. Grafton states:

"This stone is about twenty-four inches high and twenty inches wide. It has on it four rows of marks resembling the figure eight. It is the property of D. J. Grafton, Hammondsville, Ohio, and is highly prized as a curiosity."

A Large Family.

We all have heard of the old woman who lived in a shoe and there kept a large number of children. Here is a counterpart. A mother opossum lives in a small packing box and has so many young 'possums that she really does not know what to do with them. As our scientific friends know, the opossum is a marsupial animal and cares for her young in a pouch on the underside of her body.

Mr. Raymond T. Zion of Lebanon, Indiana, sends us a photograph of this opossum that he caught in the woods. She has eleven young ones but only five are shown in the picture. It would seem as if they were enough to form

a pretty good sized family, but when we remember that she has six more in that marsupial pouch, we perceive that her trouble must be as great as that of the old woman who lived in the shoe and didn't know what to do.



THE AUSTRALIAN CHRISTMAS ROSE.

The specimens of *Boronia serrulata*, a member of the *Rutaceae* or rue family, and known as the Australian Christmas rose, were sent to Arcadia by Mrs. H. A. Perkins of Stamford who received them from Australia. The plant is not in cultivation in this country.



A MOTHER WITH ELEVEN CHILDREN.

He Demands Proof in the Lens Question.

(A name in the following is left blank by request of the photographer who intended his letters as personal to the editor and not for publication.—Ed.)

Rochester, New York.

To the Editor:

You have placed yourself under obligations to Mr. ———, as well as to the readers of your magazine to explain how you know that because Mr. ——— in a photographic contest, won the first prize with a picture that he made with a rapid rectilinear lens, his success was owing to one of these accidents, either that Mr. ———'s subject was better than the other subjects, or that Mr. ———'s picture was the best in a poor collection. Did you see the pictures that were entered in that contest? Are you basing your conclusions upon accurate information or upon what you imagine? If Mr. ———'s prize picture had been made with an anastigmat would you have told him that his success was owing to either of the accidents that you specify?

Mr. ——— has stated facts which he knows. In your reply there is nothing to show that you are telling what you know. You don't know that the man who runs the elevator has the best lenses. You don't know what kind of lenses the man who runs the elevator has. You don't know whether the man who runs the elevator has any lenses or whether he has no lenses; for if you do know, instead of citing the dealer, you would cite, as your authority, the man himself who runs the elevator. You know what the dealer said about the man who runs the elevator, and no more. You cannot prove a statement upon heresay evidence.

You have again made the charge that the rectilinear lens is an "old plug." I call upon you to produce your proofs. What do you mean by the term "old plug" as you apply the term to rectilinear lenses? Then, in accordance with your definition, what are the facts which tend to show that the rectilinear lens is an "old plug?" You have accused; and your accusation is chal-

lenged. It is incumbent on you to substantiate your accusation with proofs.

GEORGE W. KELLOGG.

Thus I am pinned to the witness stand and quizzed and cross-questioned to make clear the faith that is within me regarding the superiority of the anastigmat over the rectilinear. Let me frankly state that I do not know the details of Mr. ———'s success nor of yours. I know that you both do good work—first-class work—and that is why I am willing to enter into an argument with you as to the relative values of rectilinear and anastigmat lenses. With about ninety-nine hundredths of the work that comes to this office from rectilinear lenses there is no chance for argument. The photographs are self-evidently bad although in many of them the subjects are first-class. Over some of them one could almost shed tears when one thinks that the photographer did not have gumption enough to use a rectilinear lens well and get the best out of it, or to use an anastigmat fairly well and even with such usage get good results. I think that you and all other advocates of rectilinear or anastigmat lenses lay too much stress upon the quality of the work as a test of relative values. I think that every manufacturer of anastigmat lenses makes a mistake in arguing that the anastigmat lens produces better results than the rectilinear. Taking everything into consideration, these arguments in behalf of the anastigmat are right, but they often create suspicion in the minds of thoughtful camerists like you, because the fact remains that once in a while poor work is done with the anastigmat even in the best hands, while occasionally we see a perfect masterpiece made with a rectilinear. But why put all the stress of the superiority of the anastigmat upon quality? I can recall many phases of human life where superiority does not rest wholly on quality. The wise man occasionally does a foolish thing and the numskull sometimes makes a brilliant achievement. The holiest man sometimes sins and the

basest criminal sometimes does things which are right and may exhibit the highest traits of courage, honesty or other commendable quality. If you know of one or more persons whose entire previous life has been exemplary, but who go wrong in some one or two points, and if you know of some bad persons who have done commendable acts, is that a good reason for saying that a generally bad life is fully equivalent to a generally good life? Suppose you drive into the country and pass a garden that is a perfect model; suppose you ascertain that the owner of that garden dug up the ground with a piece of board and hoed it with an iron hoop? You drive on and find a garden that is in bad condition through negligence, and you learn that the owner plowed the ground with a steam plow and hoed it with the best grade of patent hoe. Is the thrifty garden a good argument in favor of using crude tools?

Suppose you meet a boy with an alder pole, a tow line, and a bent pin, but with a long string of fish, and a little farther down the road you find a boy with a bamboo rod, a patent automatic reel, but no fish, and he tells you that it is not a good day for fish, will you then irrevocably decide to own only an alder pole, a tow line and a bent pin, and never to try to fish with anything better?

It is possible to do good work with the poorest tools. It is possible for a generally bad man to do an act in the highest degree commendable. It is possible for the holiest man to fall, and even to commit the basest crimes but these are not the slightest argument against the general principle under consideration.

The manufacturers tell you that the anastigmat lens does far better work than the rectilinear. They are wholly right and wholly wrong. It will and it won't. I have seen, and have myself produced the very finest work with a rectilinear lens, and I have, even with the best lenses sometimes achieved failures that made me want to shut the camera in a closet and not see it again

for a week. To come directly to the pointed question that you ask, I reply that I know it because I have had twenty-one years of experience. I know more completely and more positively on account of that experience, than I should know if I had seen and had carefully examined your own and Mr. —'s outfit. A general principle, especially when discovered after almost a quarter of a century's experience, is worth more than any person's single observation of my work or of yours. I presume always to advise the camerist to lay aside the rectilinear and get an anastigmat, for the reason that I lost the greater part of my camera life because I was not told about the superior advantages of the anastigmat. I was deluded by my pride in certain fine work that I had done. I held it up exultingly and said, "There, what's the use of buying an anastigmat when one can do work like that with an ordinary lens." And even to-day, after many years of experience with the anastigmat, I find occasionally among my camera souvenirs, a bit of high-quality work that makes me think that possibly, from Mr. —'s and Mr. Kellogg's and perhaps other persons' point of view they are right. Then you inquire I surmise, "What's the use of straining every nerve to buy an anastigmat." Why not tell the thousands of camera users with the ordinary lenses how they can do better work, and not urge upon them the impossibility of purchasing a high-grade lens. I do tell them, have told them, and will continue to tell them. It does not require much space to tell them. The whole thing is just this. Put heart and gumption back of your lens and you can do good work with any lens. Why don't I tell the boy with a dirty face that he can always be happy if he keeps his face dirty, because I know that some boys with dirty faces are happy? To generalize too freely from "events viewed unequally," is dangerous, and you, my dear friend are on dangerous ground not to say thin ice, when you depend so much on an isolated example.

I once heard of a recently graduated

physician who started out to keep records and thereby to prove a theory. He obtained a spotless blank book and began to jot down experiences. He had a Frenchman very ill with a certain fever and after the crisis had been passed he prescribed chicken soup. A little later he had a German afflicted with the same fever and as he convalesced the physician prescribed chicken soup, but the man died. The medical youth wrote this conclusion in his book: chicken soup is good for a Frenchman but it will kill a Dutchman every time. The rectilinear lens may be good for Mr. Kellogg or for Mr. —, but in the hands of a less experienced person it will in nine cases out of ten kill the grandeur out of photography.

Not a long time ago I saw a statement by an experienced photographer of birds to the effect that he doubted whether the anastigmat has superior qualities that warrant the superior price, and undoubtedly that question arises occasionally in the minds of the most devoted users of the high-priced lenses. But there should be taken into consideration their pictures with the ease and surety and satisfaction of making them. As I write these words, especially the word "satisfaction," there comes to mind a memory of my boyhood. Charles and I sat under a chestnut tree. He had an old muzzle-loading, flint-lock gun, and by his side lay several squirrels and one or two rabbits. I had a double-barreled, cartridge-loading shot gun of the most approved pattern, but I had few specimens in the game bag. I have changed my mind since then as to the satisfaction of hunting, but taking it from the boyish point of view, although Charles had surpassed me in the matter of game I would not, even in those days, have exchanged my joy and satisfaction in the better gun for his better filling of the game bag. Would you? But according to your contention I should have profited by that experience. I should have told the boys in the neighborhood that if they wanted to get a good supply of game in the bag they must get a flint lock and muzzle loader.

We are not urging the question of economy. We are speaking from the amateur's point of view. We are after not only results that please, but methods in achieving those results that please as well. I should not lay aside the better hoe and the better fishing pole if I were a user of either, because some one with inferior tools produced better results than I with my good ones. Nor would I accept those results as an argument why I should teach others to dig with a board, or fish with a bent pin. This magazine is addressed to those that believe that nature is the best thing in the world, and not to those that occasionally turn their attention to nature for a moment, and from this point of view I say Live up up to your highest possibilities. If you cannot get a good lens, do the best you can with a bent pin, but if you really love the art you will throw aside that inferior camera and strain every nerve to get a better one. I fancy some one will say that I have not proved my contention that the rectilinear is the inferior and that the anastigmat is the better. I cannot prove it, and no manufacturer should attempt to prove it by depending wholly on quality of work. There is no denying the fact that a rectilinear stopped down and given plenty of time will produce, giving it enough time on a still object, as good results as will the anastigmat wide open. But the trouble is that most of the things that one photographs are not test charts nor still objects. Give plenty of time to the adjust and to fire the old flint-lock and it will kill just as surely as the breech-loader, but when I shoulder the camera and start for the fields I want to feel that with me I have the ability to take anything that comes along and not only in the best but in the most satisfactory manner. Do not judge the pictures of *THE GUIDE TO NATURE*, even those taken by me as an argument for or against anastigmat lenses, because you can take the range of my work of fifteen years ago and pick out some things just as good. The argument is not in the thing itself but in the percentage. Fifteen years ago, perhaps two out of a hundred

were good, but now they are ninety-eight out of a hundred.

Your letter reads like the cross-questioning of a lawyer in a court room, but there are some things that will not submit to a lawyer's inquisition, and there are some things that are right even when the jury disagrees.

By "old plug" I mean exactly the sense in which that term is used and applied to a horse. An "old plug" will draw me for ten miles, and when I get to the end of the journey, the journey will have covered as many miles as if I had been riding behind the finest horse in the land. But, compare the dissatisfaction of riding after the "old plug" compared with the pleasure of bowling along behind the good horse, yet at the end of the ride Mr. Kellogg and Mr. — jump out—one on each side of the road and pointing their fingers at me say, "See, you got here didn't you. I got here. Anybody else can get here if you show them how to ride after an 'old plug.' What's the use of getting a better horse?"

"Submit the proofs." I cannot. I give it up. There are lots of things that I should be puzzled to prove. I could not prove the difference to one who has never experienced the difference between satisfaction and dissatisfaction, between joy and sorrow, between sunlight and darkness, but I know these things, and you can learn them by experience, and in no other way.

(From a Specialist in the Use of High Grade Lenses.)

The commercial photographer must have a lens that will not distort straight lines along the margins of his plate; otherwise his outfit is useless for architecture and other subjects requiring a wide angle. Rectilinear lenses will not cover a much larger plate than that for which they are made, even when stopped down. Anastigmat lenses of moderate speed (which means nearly twice as fast at full aperture as the rectilinear lens) will cover a plate more than twice as large at F 32, as at F 7; so the same anastigmat is frequently used on two or three cameras. The

combined effect of the aberrations present in rectilinear lenses is seen in a slight haziness all over the image. This, although not especially noticeable in most amateur work, is enough to compel engravers and others who make a specialty of copying to use anastigmatic lenses exclusively. Thousands of portrait photographers use large expensive anastigmats for most of their work in preference to the regular portrait lens. In this case there is no gain in speed, but the curvature of field in the portrait lens makes it unsuitable for full length portraits and groups. But to the average amateur, and especially to the nature photographer, the greatest advantage of the anastigmat is its speed. The cheaper cameras are fitted with lenses working at about F 16. Snapshots with these are possible only in bright sunlight and even then there is no detail in the shadows in landscapes. The writer asserts this from experience having taken along a \$4 camera and lens on a certain trip because it was so much lighter than his reflecting mirror camera fitted with an anastigmat. The result was several dollars worth of wasted films and much disappointment over lost opportunities. We would not advise anyone over ten years old to begin with such a cheap outfit, if he can possibly afford a better one, as his difficulties, * even though he takes the greatest care, will be increased a thousand-fold.

The best class of rectilinear lenses work at about F 8, which is a vast improvement over the cheapest ones, and it is true that for ordinary subjects in a good light they may give results which lead the inexpert to doubt the superiority of anastigmats. But F 6.8, a moderate speed for anastigmats, is 40 per cent faster than F 8, and this 40 per cent is just the difference between

[* It is encouraging to note that this expert regards the anastigmat as **easier to use**. It has been claimed by some camerists that the difficulties (requiring great skill to overcome) are with the anastigmat. Mr. Kellogg is so skilled a camerist that he can get good results even with a rectilinear. It is to be feared that he and Mr. — do not realize how much is due to their skill in overcoming **rectilinear** difficulties.—E. F. B.]

success and failure in the late afternoon hours when a majority of amateur photographs are taken. And the difference in speed between F 8 and F 4.5, which is the working aperture of the fastest anastigmats is as 64 to 20 $\frac{1}{4}$. That means that an exposure of $\frac{1}{50}$ of a second on a squirrel, with the anastigmat, affects the plate as much as an exposure of $\frac{1}{15}$ of a second with the best rectilinear—and in $\frac{1}{15}$ of a second the squirrel is liable to move all over the field of view.

A single grateful thought toward Heaven is the most complete prayer.—*Lessing.*

A Good Shot Well Received.

This interesting photograph was sent to THE GUIDE TO NATURE by C. Stevenson, of North Yakima, Washington. It is one of the best illustrations of the commercial phrase "receiving goods through the middle man" that we have ever seen.



HE HIT THE MARK!

The Old Man of the Sea.

The literature of mythology is full of references to aquatic monsters, usually part human and part fish, and



PORTRAIT OF A FISH!

nearly all primitive peoples have believed or still believe in some of these marine creatures of the imagination. They have often been worshipped as deities but more often feared as demons or as omens of storm or plague. Perhaps the earliest known was the fish-headed god Oannes, or Hea, of the ancient Chaldeans, but the Greeks and Romans and various other peoples on down through the Middle Ages believed in tritons, nereids, mermaids, sea-satyrs, etc. Even the early natural history of Aldrovandus, Gesner and others was not free from such supposititious animals which were figured in some of these works.

Africa, the land of so many mysteries, has yielded up the original of another fabulous monster. Anyone familiar with the Arabian Nights will easily recognize from our illustrations "The Old Man of the Sea." It might also be the original of the "Sea Bishop" of Gesner, Sluper and others, but from the fact that this aquatic member of the clergy was "seen off the coast of

Poland" and there is no mention of a South African marine diocese.

At any rate the fish head here shown is interesting. The photographs were



THE FISH HEAD DRESSED FOR THE PHOTOGRAPHER.

made at the Aquarium from the dried head which was brought from Cape-town, South Africa, by the owner, Robert A. Hunt. Except for the evident additions made by the photographer, the specimen was not manipulated in any way. The ragged outline at the back of the head shows where it was severed from the body. The lines on the lower part of the face are natural and are the outlines of the maxillary and other bones of the jaws. The proboscis has shrunk somewhat in drying. In life the resemblance to the human face was even more striking.

We are indebted to Mr. Hunt for the data and for the pleasure of examining the dried head, and some original snapshots taken just after the head was severed from the body. Literature is not at hand for the identification of the species, but it appears to belong to the family *Sparidae*, and if this is the case it would be related to our sheepshead.

The conical front teeth are shown in the cut. The lateral teeth are strong and molar-like, evidently for the purpose of crushing shells and, like the famous king of the Cannibal Islands, "he has two rows in his lower jaw."—*R. C. O., in Zoological Society Bulletin.*

A Common But Unfamiliar Flower.

Photographs of this beautiful cluster of gradually unfolding bloom were shown at various Institutes for teachers



THE UNFOLDING ONION BLOOM.

who were requested to tell what the plant is. Not five per cent of those teachers had ever seen it or had any knowledge of it. It was then explained that this is a good example of the fact that we may know many things that are far from home and comparatively few of the commonplace things in our immediate vicinity that we should know.

This is a picture of the beautifully, gradually expanding flower cluster of the onion.

MRS. GEORGE HILL, BLADWORTH, HOTEL CUMBERLAND, NEW YORK CITY.

Trouble never leaves us where it found us and I am sure that your recent experiences will all tend toward the furtherance of your life work.



Effective Co-Operation by Past President Ballard.

One of the most pleasing and encouraging phases of The Agassiz Association work by the present management is the hearty co-operation of the Past President and present Vice-President, Harlan H. Ballard of Pittsfield, Massachusetts.



MR. HARLAN H. BALLARD, PITTSFIELD, MASSACHUSETTS.

Here is an article recently written by him and published by "Primary Plans" of Danville, New York, in their issue for November:

THE AGASSIZ ASSOCIATION.

BY HARLAN H. BALLARD,

Originator and for Thirty-three Years President of the AA, Pittsfield, Massachusetts.

It is not good to be alone. The saddest word is loneliness. The happiest place is home. The best thing in the world is love. People are glad to get together—sad when they have to part. Union is strength and joy. The family, the church, the school, the college, the club, and fraternity, the society, the city, the nation, are all the results of the universal desire of fellowship. The bond of union is a common interest. Folks who like the same things like each other. Those who do the same things like to be together. A pleasure shared is a pleasure doubled. When children and parents stop working and playing together the home goes to pieces. When boys and girls go to school only because they have to, education is a failure.

It follows, from this that a good way to make people happy is to give them something of sufficient interest to draw them together in unselfish groups, and keep them together by keeping that interest alive. The higher and deeper the common interest which unites us, the grander is the society. The bond of the family is love of kindred. The bond of the church is love of God and of humanity. The broader the common interest, the larger will be the society. The love of kindred is narrow, and the family is small; the love of humanity is wide, and the church is universal.

No merely human society can rival either the family or the church, but every society can do something toward uniting its members in friendship, and in working together for good. There is

no unselfish interest that is broader than an interest in nature. In the reverent study of the world in which we live people of all ages, of all races, of



*With great regard
yours very truly
Robert, August 25,
1862. L. Agassiz*

all degrees of education, find common ground. Here is found a tie which serves not only to draw people together into new associations, but which also strengthens and ennobles all the present relations of life. Families united by a common interest in minerals, birds or flowers need not fear the divisive effects of whist or football. Schools whose teachers and pupils learn together the lessons of "Nature, the dear old nurse" are free from the ruts of dull routine, and churches whose pastors and people duly consider the lilies of the field are not far from the kingdom of heaven.

Such thoughts as these were in the mind of Louis Agassiz when he expressed the earnest hope that a society for the study of local natural history might be established in every town and village. The dictionary tries to condense the life of one of the world's great men into two lines: "Agassiz, Jean Louis Rudolph, (1807-73), Swiss naturalist; prof. at Cambridge, Mass." The attempt is a failure. Life cannot

be expressed in words. If it could be, it would have been done by Agassiz's loving and accomplished wife in the two volumes that she wrote in his memory. There is nothing better, and through them we almost see the eager boy, the dutiful son, the patient student, the adventurous explorer, the generous friend, the wise teacher, the profound thinker, the prophetic founder of a great museum, the out-wearied laborer and the folded hands; but the flash of his kindling eye, the radiant smile, the reverent gesture of his bowed head, the indomitable courage, the keen perception and the loving kindness of his noble heart, transcend language. Every teacher and student should read the book, and every one that can should listen to the words of those yet living who had the privilege of sitting at his feet to learn.

Prompted by the suggestion of Agassiz, as recorded by his friend, M. Pourtales, The Agassiz Association was founded in 1875, in a country school in Lenox, Massachusetts. The use of the name, as symbolic of the origin and purpose of the society, was generously granted by Mrs. Agassiz and her son, Alexander. Branch societies, called "Chapters," were organized rapidly throughout the United States and foreign countries, until in 1890 more than a thousand little clubs had been formed with a total membership of more than thirty thousand. These clubs varied in number of members from four to two hundred each. The age of members ranged from four to eighty, but the great majority of members were boys and girls. A large number of competent scientists volunteered to aid the local workers by suggestion and advice. Courses of study by correspondence were opened, and completed by about two thousand eager students.

Agassiz's birthday, May 28, is joyously kept by thousands of children as a holiday. They are the boys and girls for a picnic and a tramp! The gleaming hair of the girls, tightly braided and knotted with bright ribbons, flashes over rocks and rivulets and up the steepest cliffs. At the sound

of the horn, back come all the children with baskets, boxes, bags and pockets full of the treasures of the wood. They spread out their trophies and decide who has found the most and who the rarest. They get the teacher to name their specimens if he can, and laugh in good-natured triumph if he fails. As the shadows lengthen, the children go home, and arrange their mosses, ferns and flowers, their pebbles and butterflies and beetles in cabinets, and declare that they have had a glorious time.

Many teachers who have not been able to find room for natural science in the course of study, and who have felt that their pupils ought not to grow up strangers to flowers, trees and birds, have been glad to give an hour once a fortnight to a meeting devoted to these studies and to an occasional excursion. Most school committees will grant the use of a room for such meetings, and many will provide cases for the specimens. In hundreds of schools, cabinets have been filled with specimens collected by the pupils within five miles of the schoolhouse door.

In 1892 the Association was incorporated under the laws of Massachusetts. It still lives and prospers. Its President is Edward F. Bigelow, Ph. D., himself one of the older AA boys. Its home is Arcadia: Sound Beach, Connecticut. There is a wonderful *esprit du corps* among its members. Boys and girls everywhere are proud to wear its beautiful badge. The official organ, THE GUIDE TO NATURE, is a beautiful illustrated magazine. Every lover of nature, or of children, is most cordially invited to join The Agassiz Association. The cost is nominal. Full particulars may be had by addressing Dr. Bigelow at the address given above.

Literary Note.

"Bird-Lore" for December contains colored and uncolored plates of birds and 120 pages filled with matter of interest to bird-lovers. Of especial importance is the Annual Report of the National Association of Audubon Societies, which, in securing legislation for bird protection and introducing bird study into the schools, closes the most successful and encouraging year of its existence.



NEW ARCADIA—THE HOME OF THE AGASSIZ ASSOCIATION.

Sound Beach, Connecticut.

Photographed November 16th, 1911—exactly six months from the time of receiving notice to vacate the former Arcadia.

Annual Report of the Baltimore Chapter of the Agassiz Association.

Honorary President, Dr. Leslie H. Ingham; President, Frank Dawson; Vice-President, Bartus T. Baggott; Secretary, John Donnet, Jr.; Treasurer, Albert Z. Aldridge; Ass't Secretary, Schlessinger; Field Secretary, N. King; Sergeant-at-arms, Sarbacker. Executive Committee: Bartus T. Baggott, Chairman; Frank Dawson, Herbert Ingham, John Donnet, and King. Museum Committee: Messrs. Ingham, King and Sacks. Constitutional Revisory Committee: Messrs. Dawson, Baggott, and Donnet. Head of the Dept. of Scientific French Literature: Frank Dawson. Head of the Dept. of Scientific Spanish Literature: Bartus T. Baggott. Head of the Dept. of Scientific German Literature: John Donnet. Regular meeting days. Wednesdays, 3.00 p. m., Baltimore City College. Membership: Fifty-seven. Scientific branches under active study: Aviation, Geology, Mineralogy, Chemistry, Zoology, and Botany. Special branches of study: Toxicology, Medical Jurisprudence.

HISTORY AND OUTLINE OF CHAPTER 233A, AGASSIZ ASSOCIATION.

The Baltimore Chapter of the Agassiz Association was organized about the year 1889 by students of the Baltimore City College interested in the study of nature. It seems to have been a thriving organization though having a small membership until the year 1898 or 1899. At this time it seems to have passed out of active existence until reorganized by Dr. Leslie H. Ingham (Head of the Dept. of Science at the Baltimore City College) in the year 1907. On the occasion of this reorganization, the Society did not inform Headquarters, nor did it, for some reason, re-enter the world-wide organization of the Agassiz Association as one of its chapters, but continued its work as a society independent of any other.

It behooves us, therefore, to write to you, soliciting advice as to how we may re-enter your worthy organization, or rather as to how we may continue as a chapter, as formerly. Your esteemed

agent, Mr. Wilhelm, has kindly advised us to send you this report and history. Owing to the loss of valuable records during the time of the society's inactivity, we fear that the "history" is somewhat incomplete.

The present officers and members of the chapter are unanimously willing to re-enter your ranks, inasmuch as our work is of such a progressive nature and since we are the only society of its kind in the Baltimore City College.

Several of the members of the newly formed "Maryland Ave. Chapter" of the Agassiz, No. 1040, are or were members of this chapter and if we too can regain our classification as Chapter 233A, much work might be carried on jointly to the profit of both.

We are, meanwhile, inclosing a brief outline of work done during the past collegiate year with a few examples of our experiments, illustrating the different branches of science in which we are active.

OUTLINE OF WORK FOR 1910-11.

The society began its last year's work under the direction of Dr. Leslie H. Ingham, who recommended the study of trees as an excellent branch for the members to take up, and throughout the year many essays were written and lectures and readings delivered on the subject. After the election of officers in the spring, a very interesting line of work was taken up, namely, the classification of trees. A piece of land on the edge of the city limits was selected, where the society had previously studied geology, and a large number of trees were classified, the work being especially instructive since the classification was carried on before the leaves appeared, it being the latter part of March.

Just previous to this, a very interesting and instructive lecture was delivered by Dr. Ingham on the new sewerage system of Baltimore, soon to be put into operation, and which is one of the finest in the world. Dr. Ingham here gave a complete description of the workings of the system from beginning to end, his lecture being accompanied by a very creditable address by Prof.

Hazeltine, head of the department of biology, zoology, and botany in the college, who displayed by means of microscopes, specimens of bacteria, and described vividly the peculiarities of these strange organisms, so minute, and yet capable of working out many wonderful things.

On the last regular meeting day of the society, an address was made before the chapter by Captain Yates, U. S. A., on the Philippine Islands, his talk was illustrated by photographic lantern slides, depicting vividly plant and animal life in the Philippines. The lecture was full of anecdotes and scenes, well chosen to picture the nature of these distant islands.

This finished for the time being collegiate work of the organization, as the summer vacation began three days later.

Good Work Done and Planned.

A Chapter of The Agassiz Association has recently been organized at the Manor School, Stamford, Connecticut.

The officers are as follows: President, Richard Barthelmess; Vice-President, Alwyn Levy; Secretary, Donald Funk; Curator, Robert Coan.

On the first two outings of the Chapter in the woods at Springdale, Connecticut, and near Summer Street, Stamford, Connecticut, we obtained some interesting specimens. The most beautiful season of the year is the fall, and the woods were exquisitely clothed in their various and striking colors.

The main study on these trips was botany. We found some rarely curious specimens of fungi, which we gathered from rotting stumps and dead trees. We found the witch-hazel in bloom, which we studied very carefully through the microscope. Many plants going to seed also afforded much interest, not only in their beauty but in their minute details and history.

We learned that the plant stung by an insect is often poisoned, and at the punctured spot swells into a small tumor. We found an example of this on a few twigs which were strangely



MANOR SCHOOL CHAPTER SEARCHING THE BROOK BANKS FOR NATURE INTERESTS.



FROM CAMP PASQUANEY—PADDLING ON NEWFOUND LAKE.

swollen in parts. We saw another peculiar sight in a hole at the bottom of a tree, where the ground was covered with fine sawdust, which had been dropped by ants and other insects as they dug their way into the internal part of the trunk. Sometimes one can see it dropping as these industrious little beings move untiringly at their work.

We gathered some sweet-smelling bayberry, from which candles are made, and some red fungous growth of which our Fourth-of-July punk is composed. Perhaps the most beautiful of our specimens were the tufted seeds of the milkweed which were exquisite in daintiness and form.

We have learned much of interest about butterflies and moths. The wasp's nest has also been discussed. The starfish was a very interesting topic and we spent some time considering its customs and life. In addition to the specimens named we also have numerous hornets, wasps and nests of various sorts.

In conclusion I wish to say on behalf of the entire Chapter that we will try to make our Manor Chapter worthy of The Agassiz Association.

RICHARD BARTHELMESS, *President*.

Camp Life For Boys.

Mr. Maurice Blake, a member of The Agassiz Association, conducts the natural history work of Camp Pasquaney for boys at Bridgewater, New Hampshire, and renders a report of the details of camp life which are practically the same as any other camp and then gives a statement as follows:

"It is this active life in the open, so near to nature, which fills a boy with love for the beautiful, that teaches him to feel companionship in the mountains and trees, and inspires him to place his standard high in everything connected with this little community life. He is carried on with the enthusiasm resulting from a wholesome camp spirit which is the heritage of a successfully organized camp life.

The natural history work is under the supervision of one of the Council, who endeavors to make the out-of-door life pleasant and profitable by guiding the boys to intelligent observation in the field and accurate preservation in the museum of specimens and records of what has been observed. The museum-lecture hall contains a valuable collection of mounted specimens of the native fauna and flora. Informal talks are given by the naturalist on each

Saturday morning, illustrated by the work the boys have been doing and by the mounted specimens. The bird collection contains ninety-one varieties all but a few of which are summer residents and all taken locally.

"A series of stereopticon lantern slides illustrates bird life as it appears about camp. An ornithological chart of the species and number of individuals of birds observed each day is kept. A Record Book is filled by the boys' field observations entered under the proper heading according to the classification of the form of life observed, so that it becomes easy and pleasant for them to learn what branch and group a given form belongs in.

"Due to the increasing approach to completeness of the camp museum collection, individual collections by the boys have been encouraged.

"Special trips on land and water are taken by the naturalist with small groups of the boys, all having the chance to go once or much oftener if they desire.

"The boys are instructed in the preserving and proper identification and labelling of the specimens of whatever sort which they collect.

"They are encouraged to the thorough study of a limited subject or form of life both in the field and from the best authorities. This work is embodied in an essay at the end of the summer. There is an excellent natural history library provided by the camp and at hand in the museum.

"Photography is encouraged and the best results are turned in for preservation from year to year or made into lantern slides.

"There are three prizes offered by the camp, simple bronze medals for Research, Essay and Photography respectively. The Research medal is given to that boy who receives the greatest number of points to be gained by adding new specimens to the camp collection, by forming a collection of his own, by the number of accurate and valuable observations entered in the Record Book, and by any further special work in the field or museum.

"Weather phenomena are noted and daily recorded as outlined by the United States Department of Agriculture, Weather Bureau, for Voluntary Observers' Meteorological Record.

"The work is the greatest pleasure and most interesting, and particularly



INTERIOR OF "DANA HALL"—ONE OF THE THREE SLEEPING DORMITORIES CONNECTED BY WIDE PIAZZAS.



OFF ON AN EARLY MORNING LAKE TROUT AND LANDLOCKED SALMON FISHING TRIP—
COOKING BREAKFAST.

so as it forms but a normal part of an all around community life out-of-doors."

**Report of Corresponding Member No.
2144, AA.**

MISSION SAN JOSE, CALIFORNIA.

There is so little to say on my own special subject, entomology, that I think I shall have to "branch out" and relate an incident which came under my observation last spring, even though I risk being charged with nature faking. A family of Pacific house wrens occupied a basket which we placed under the eaves of our shack for their convenience. Though their building, the enthusiastic songs of the male, and the busy time of feeding the brood in the nest were all interesting, they were only the ordinary happenings of wrenedom. Suffice it to say that three times we were obliged to get out the rifle and shoot jays that had discovered the nest and were bent upon destroying the young birds. Each time, as soon as a shot was fired and a jay disposed of, the wrens ceased their cries and went to work, apparently having a perfect faith that the gun would not be turned on them.

At last the day came when the young wrens left the nest. We had had wren neighbors before, so paid little attention to the excited clamor outside as it was a busy day with us. Toward the middle of the afternoon, however, the voices of the parent birds rose to such a pitch that we began to wonder if all were well with our little friends. Then suddenly the male flew to the porch where we were sitting, and clinging to the screen, looked in with wide, frightened eyes, and fairly shrieked his distress at us. The appeal could not be ignored. We left our work and went to the rescue of the wren family.

The basement of the shack is roughly boarded up, and there are many cracks so that the wrens could slip in and out almost anywhere. We found the little mother peering in through a wide crack and scolding vociferously, while her mate gave his opinion from the doorway. As we approached he fluttered in across the earthen floor, still voicing his protests. The mother now entered and fluttered about beneath a hanging shelf, scolding all the while. In a moment we saw the cause of all the trouble. A snake had draped itself over one of the braces close to the

wall. Darting up from the ground, the mother would flutter and scold a few inches from the snake's head, and so bewildered was he that he did not know whether to climb farther up or slip down to the ground. Two young wrens were huddled together in another corner of the basement, too frightened to escape. The snake was not near them, but the parents knew him for an enemy and—did they expect us to bring out the rifle? They certainly expected assistance of some sort, for as soon as we began trying to dislodge the snake they left the basement, perched upon the garden fence, and the male began to sing, probably to reassure the young ones.

The snake appeared at first glance to be what we have always called a "gopher snake,"—harmless, really beneficial, and worthy of protection. He was brown and tan, marked with squares across the back, and had a small head without the protruding jowls of the rattler. His tail was smooth and slender, running out to a sharp point. Not wishing to kill him, we took the hoe and attempted to drag him from his position, when much to our surprise, we were greeted with a rattle.

That slender tail was vibrating rattler-fashion against the wall. Of course it did not sound like a real rattlesnake, but it was somewhat startling, nevertheless; and when he crawled over upon the shelf and used some empty cans for his "sounding board," it became really formidable. As we continued to grope with the hoe, he showed us another of his intimidating tricks. Rearing the fore part of his body,—almost half his length, I judged—he drew it back into lateral folds and held himself stiffly in an attitude of defense, ready to strike. He did not carry out his threat, however. Though the hoe was thrust at him repeatedly, it elicited only hisses. At last he ignominiously lowered his head, slid from the shelf, and escaped through a crack.

Of course we were anxious to learn what kind of snake we had seen, but we seem to be the only persons in this vicinity who ever saw a "fake rattler." This was not our first acquaintance

with his kind. We have seen several small ones, ten to twelve inches long. They always raise the head in that peculiar striking attitude and hiss and strike viciously, but they do not vibrate the tail. This large one was about thirty inches long. The only other adult which we have seen was out in the field. It vibrated its tail amongst the dry grass, making quite a buzz, but did not threaten to strike, though it turned its head about so as always to face us. Can it be that we have just discovered some interesting tricks of our common "gopher snake?" It does not seem possible, for hitherto our experience has shown him to be rather timid—anxious to get out of the way as soon as disturbed, and never showing an inclination to fight. We should like to know if our "gopher snake" and the fox snake are the same. A picture of the fox snake published in the "National Geographic Magazine" in July resembles the "gopher snake" very closely.

PHOEBE LOWRIE.

* * * *

The species of reptile involved was undoubtedly a representative of what is technically known as *Pituophis catenifer*, a harmless and really beneficial creature. The members of the genus to which this species belong, also the snakes of the genus *Coluber*, *Zamenis* and *Ophibolus*—namely, the rat snakes, the racers and the members of the king snake genus, have a common habit of rapidly vibrating the tail when alarmed. So rapid is the motion that the tail appears as a mere blur, and if the reptile is among dry leaves, the sound produced is very much like that of a small rattlesnake. Snakes of the genus *Pituophis*, commonly known as the gopher snakes or bull snakes, are characterized by a fleshy appendage on the lower jaw, situated immediately in front of the breathing passage. They take a long breath and then by injecting the air against this appendage, produce the same sound effect as if one were to take a visiting card and hold it in front of the lips and blow upon it—a sharp hissing sound.—*Raymond L. Ditmars, New York Zoological Park.*

A Social Gathering Near to Nature.

Mr. and Mrs. Walter H. Harding, of South Framingham, Massachusetts, recently entertained the executive committee of the Framingham Board of Trade at their cottage in the woods. The menu was printed on the back of beautifully colored autumn leaves which thus formed a most novel menu card. The list included all the "fixings" which properly go with an appetizing oyster stew, not omitting the pumpkin pie and molasses cookies

the camp road, and as they drew near we touched off a big pile of dry pine boughs saturated with oil to make a quick hot fire. To get them into the camp afoot we made them follow a winding line of lanterns. The camp itself is not large but we had it covered inside and out with branches of autumn leaves and trimmed all about with lighted Japanese lanterns and grinning Jack-o'-lanterns.

"On each table was a pile of big red apples (mackintosh reds) with a line



THE COTTAGE IN THE WOODS.

which, it is said, disappeared in a surprising manner. Mr. Harding writes to *THE GUIDE TO NATURE* as follows:

"If any readers who are not yet awake to the beauties of nature and to nature's call to the best that is in us, had been in our company that night, they would have been awakened and converted to our belief.

"Overlooking a gem of a lake and twenty-five feet above the water we have an ideal location for a camp in a heavy growth of oak, chestnut and pine—some of the latter being fully seventy-five years old.

"As the guests came by automobiles we had an immense Jack-o'-lantern to mark the turn from the main road to

of chestnuts leading to each plate, and at each plate was a paper bag fastened with a toothpick and containing about half a pint of chestnuts.

"After the oysters and trimmings had been well cared for, I appeared at the door of our small kitchen with a plate of pumpkin pie and asked the company to guess what it was, (they all guessed correctly). Then I informed them that we all know that a man is simply a "kid" grown up, and that when a "kid" eats pumpkin pie he always eats it in just one way, and I told them that I was going to prove it by asking the youngest "kid" there to have a piece; and passed it to our secretary—Mr. Potter, a "young fellow"

of seventy-seven years, who proved his Vermont training by eating it in the only right way. Following his example twenty staid business men were soon eating pumpkin pie without aid of spoon or fork or plate.

"With a cloudless night, weather cool but not cold, with just a tang of fall, with the odor of the pines over all, the full hunter's moon, big and round and friendly, reflected across the lake, with canoes swinging by and the echoes of a song floating over from the next camp, we all lingered a while to enjoy the rich harmony of the scene.

"The keen enjoyment of these quiet business men in the affair, proved anew that the call of the woods and fields is strong in us all, and needs but the opportunity to bring it to the surface."

A Beginner in Nature Study.

Lewiston, Minnesota.

I have not devoted my time to any one subject, but have been getting acquainted with the different things around me. I looked up the name of several common weeds in the garden with which I have been familiar since childhood but could not call by name. I also found my first polypody. It covered a large rock in the depth of the woods on the bank of a trout stream.

After reading Miss Pendergast's article on mice I caught one last January and this summer I caught three young ones. I put them in the cage with the older one and they all got along finely. A few weeks ago I caught another young one and I put him in the cage. Instantly they all pitched on to him and bit him and chased him around and around. They either bit him or scared him to death for a few hours afterward I found him dead.

My mice will eat out of my hand and one of the younger ones will sit in my hand and eat. They are so "cute" when they wash their faces.

INA MCG. MILDE.

Contributions for New Arcadia.

Total of Previous Acknowledgments	\$2,674.62
Mrs. W. B. Pierce, Stamford, Connecticut	10.00
A Friend (Increase—total of \$10.00)	5.00
Mr. Samuel P. Avery, Hartford, Connecticut (Increase, "With pleasure"—total of \$50.00)	25.00
Mr. Stephen I. Clason, Sound Beach, Connecticut (Increase—total of \$11.75) ..	8.75
Mr. Zenas Crane, Dalton, Massachusetts (Second increase—total of \$200.00) ..	50.00
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Mr. Albert Crane, Stamford Connecticut (Increase—total of \$50.00)	25.00
Dr. G. A. Hinnen, Cincinnati, Ohio	5.00
Mr. James W. Brice, Sound Beach, Connecticut (Increase—total of \$10.00) ..	5.00
Total	\$2,838.37

A load of flagging was contributed by Mr. A. E. Bounty, Stamford, Connecticut.

The Language of the Landscape.

The Japanese understand the language of the landscape and make it tell a story. The rugged mountain, the placid lake, the roaring cataract and silent cave, the snug cottage and the dense forest each has a meaning, and can be made to express the human emotions in all their varied moods. The landscape garden then is a poem or a prayer or an argument as its builder has willed.—"The Oriental Review," New York City.



THE GUIDE TO NATURE

Vol. IV

FEBRUARY, 1912

Number 10

6-9



THE CART PATH — AN ATTRACTIVE GUIDE TO BEAUTIFUL NATURE

Photograph by Nathan R. Graves, Rochester, New York

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia: Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, under Act of March 3, 1879



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DEHN & BERTOLF, Props.

LANDSCAPE GARDENERS AND NURSERYMEN

GREENWICH, CONN.

Let us be friendly and Nature is friendly; interested and she is interesting. A love of beauty discloses beauty everywhere. Therefore be yourself what you would have Nature be to you. Attention is a master key. If you are attentive to birds with all your mind and heart you will see birds and see them in a more familiar light than others do. How hardly shall they who are distracted by the cares of the world enter into the kingdom of Nature.



It is true, however, that Nature yields us exactly what we are fitted to receive, and only to a mind companionable in the most exquisite sense does she yield herself fully. In other words, we find ourselves in Nature. A mind thus keyed is perhaps fitted for a very fine companionship alone, and much that engages others may seem neither sufficiently deep nor sincere to satisfy its ideal.—*Stanton Davis Kirkham in "Outdoor Philosophy."*



THE NEW ARCADIA—"THE HOME" OF THE A.A.

There are three buildings in the rear of the L-shaped office building. At the left is shown the completed foundation for the proposed Assembly Hall.

A SPECIAL NUMBER.

The Agassiz Association does not exist to publish "THE GUIDE TO NATURE." But this magazine is one of many methods of bringing the AA to greater efficiency. In thus fulfilling its mission, much space in this number is devoted to "the good of the Order."

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

FEBRUARY 1912

Number 10



ARCADIA--THE HOME OF THE AA IN NEARNESS TO NATURE

By EDWARD F. BIGELOW, Arcadia: Sound Beach, Connecticut



THE moving of the buildings presented to The Agassiz Association by The United Workers of Greenwich has been completed. The masonry is solid, the plumber's pipes are carrying water, the blows of the carpenter's hammer have put the woodwork in good order, and the strokes of the painters' brushes have given all the buildings an attractive appearance. One of the most agreeable aspects of the whole thing is that through the kindness of our members and friends the bills have been paid, with the exception of a loan on the land by those that supplied the site. The location is ideal, and our prospects from that point could not be better. We are in picturesque, Arcadian surroundings, near

to the center of traffic in Sound Beach, and yet, in some respects, are surrounded by as Arcadian nature as can be found for fifty miles back in the country. We are in a location that, no matter how much Sound Beach may grow, cannot readily lose these Arcadian surroundings. At the north is the railroad property, which probably will never be required, and their lease to us at one dollar a year will run interminably for the furtherance of nature study and of outdoor pursuits. At the east is a beautiful grove that will probably never be devastated. At the northeast is a region used as golf links and that seems better adapted for that purpose than for anything else. It is fitting that the name of the entire road should be changed to Arcadia Road, because all the residential section will

have the true Arcadian spirit and appearance. Some of the houses on this road cannot be surpassed by any at any seaside resort, in their adaptability for a nearness to nature, either for the permanent inhabitant, or for the transient, summer visitor.

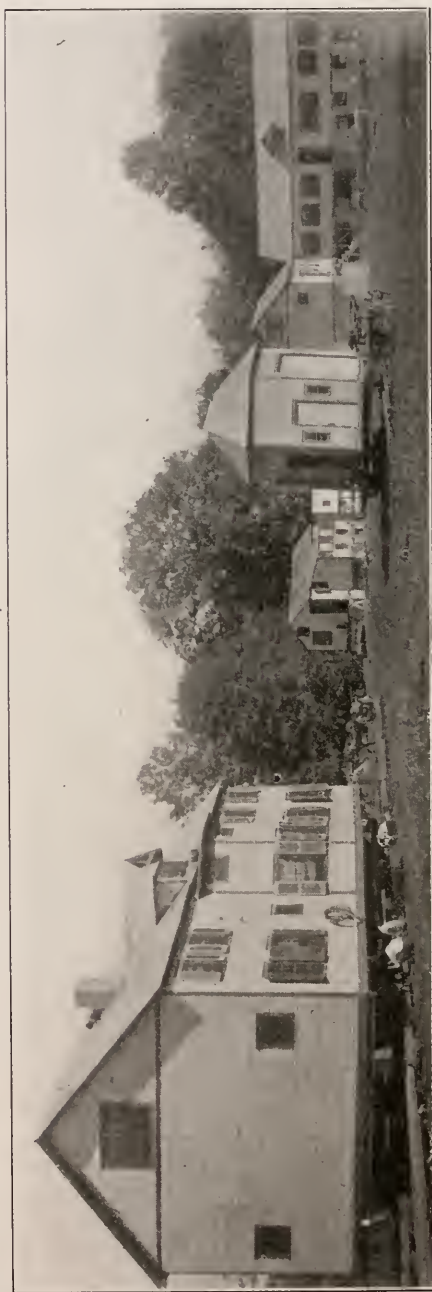
The President of The Agassiz Association is deeply grateful beyond the power of words to express, for the liberal and extensive co-operation manifested in the restoration of Arcadia. It seems as if the kindness of our friends is unbounded.

The United Workers of Greenwich conceived the idea of presenting the buildings to The Agassiz Association, and, without a word of suggestion, presented them to us. Generous words of commendation for this timely and helpful act have been innumerable and have come from all parts of the country. Eminent scientists who have been actively interested in the AA for a third of a century, have spoken eulogistically of the remarkable timeliness and thoughtfulness of such an act on the part of The United Workers. The members of the organization year after year in their regular work benefit hundreds of young people, and men and women, in their own town, but through this special charitable act they have benefited for all time thousands in all parts of the country.

Next came forward Ayres Brothers, Hoit & Company, of Stamford, who voluntarily offered three hundred dollars in contribution for the establishment of the new Arcadia on its present site, and in addition, furnishing all the land that was needed at less than the market price. The company as a whole, and the individual members of the company, have personally extended every courtesy and encouragement for the re-establishment of Arcadia. Members of the company have frequently visited the Institution and have shown an active, encouraging interest in every step as the work progressed. Even more valuable than the special terms and the liberal contribution of money, have been the personal words of encouragement received from all the members of that firm, and our own

members in all parts of the world are under a debt of gratitude to Ayres Brothers, Hoit & Company, for their liberal and cordial support.

The contracts for all the work were



WHEN MR. ANTHONY, "BILL" AND OTHERS WERE DOING GOOD WORK IN MOVING ALL THESE BUILDINGS ACROSS THE FIELDS.

placed with our neighbors in Sound Beach, who not only attended to every-

thing with the efficiency of their trades, but, what is equally acceptable and inspiring, manifested personal interest in the work.

The first to commence work was Mr. William A. Hawks, who directed a corps of skilled masons and laborers in a manner that elicited emphatic words of commendation, not only from the management of the AA, but from visitors and even from passers by who from day to day watched the progress of the work. Some of the cement work cannot be excelled. We are truly, and in more senses than one, thanks to Mr. Hawkes and his men, now on a firm and enduring foundation. We shall do well if our work shall be as well done and as enduring as his.

But the buildings as they were on the old Arcadia site, with the land sold to private owners, would have been a serious misfit. Just at this crisis came forward Mr. R. M. Anthony of Stamford, with personal words of encouragement and with the assurance that it was easily possible to move the buildings, and to replace them safely on new foundations. The contract was at once awarded to him, and we are deeply grateful for the efficient manner in which he gave personal attention to everything. "Bill," his foreman, became a household word with us. When anything was to be looked after, "Bill" was on the spot to see that it was properly looked after. A more skillful piece of work I have never seen, nor a more cheerful compliance with every request. The men with apparent ease, under the instruction of "Bill," moved the buildings a half inch in any direction to make correct adjustments to one another, or to the foundations. The buildings fit the foundations, and have been skillfully turned around and brought over them with an accuracy that is marvelous, arriving at their destination and settling in place not a quarter of an inch out of perfect adjustment. Let it be stated to the credit of Mr. Anthony, and of "Bill" and his workmen, that in all the trials and troubles of getting these buildings from a situation difficult in many respects, to their present location, there was

never heard an ugly, impatient or indecent word, as is sometimes heard among a gang of so-called ordinary laborers. But these are not ordinary laborers. They are patient, good-natured, skilful gentlemen, each with his heart in the right place. If any Arcadians were inclined to be despondent or discouraged at the trend of affairs, it was sufficient to go out and watch "Bill" and his troupe for a few minutes. Their overflowing good-nature was as inspiring as a burst of sunshine through a dark and clouded sky. Long may live "Bill" and his well adjusted "gang." We can amend the old college song, "We're here because we're here," and sing, We're here because of "Bill" and his cheerful men.

Next came Mr. Charles H. Knapp, the master plumber. He not only supplied a corps of men at net cost, but contributed liberally to the AA. It is probable that, even within the memory of the oldest inhabitants, there has not been any winter that could more severely test water pipes and heating pipes than this winter has tested them. In the coldest weather we have been able to heat the buildings comfortably, and the water pipes have stood the test in a remarkably efficient manner. When we take into consideration that the plumbing in many houses in Sound Beach and vicinity did not stand the test of the cold weather, either in heating or in the regular flow of water, we are deeply grateful to Mr. Knapp for doing the work at the new Arcadia in so substantial and efficient a manner. We are so pleased with the good workmanship, especially as shown in the cellar of the AA Home, that we frequently take visitors there to show them this ideal heating arrangement. It is neat and effective and the workmanship cannot be excelled. In general arrangement and action it far surpasses the apparatus at the old Arcadia. We cannot see how it could be better than it is.

The skilled carpenters, under the direction of Contractor J. C. Brundage, have put the woodwork in good shape. A wooden half story, three feet six inches high, has been built under the

buildings, between them and the stone foundations, which are also three feet six inches high, thus forming there a working space seven feet in height. Here we have many improvements on our former arrangement, that will greatly facilitate our work. For putting up this construction, and also for much new work in the way of an entrance building and of a triangle to connect two buildings, we are greatly indebted to the careful, personal supervision of Mr. J. C. Brundage and his skilled workmen.

Mr. Stephen I. Clason, though not professionally a wood worker, has shown remarkable skill with carpenter's tools, in various constructions on the premises in which wood is used, and has added personal encouragement by kind words and by liberal contributions to Arcadia, which have already been acknowledged in our magazine.

Mr. L. S. Miller, the house painter of Sound Beach, with his corps of efficient assistants, added the emblematic finishing touches to the buildings. We are literally in green houses, though our structures of glass are no more numerous than before. Most people admire the fitness of things when they observe our green and white, but some think that we are a little too green. Perhaps we are, but as long as we are in affinity with good Old Mother Nature who likes to spread green over everything, and since she is especially fond of raising white birches around Arcadia, Mr. Miller put us in good company when he painted our buildings green and white. But whatever may be the differences of opinion in that respect, all agree that if we must have green and white, we could not have had them more skillfully applied than has been done by Mr. L. S. Miller. With the coming of spring we think our buildings will blend harmoniously with the grass and with the numerous trees that have been set out.

The quality of the paint cannot be excelled. It is sufficient to state that all of it for the AA buildings came from The Woodlife Company, Brooklyn, New York. The dainty green of

the "shingle stane" of the residence has attracted universally favorable comment. We cordially recommend The Woodlife Company to all who want a first-class article at a moderate price.

Lumber was supplied about equally by The Getman & Judd Company, The St. John Woodworking Company and The Stamford Lumber Company, of Stamford, and The Maher Bros. Corporation, of Greenwich.

The white birch rustic work was furnished by D. P. Van Gordon, of Greenwich, and is so well and so attractively constructed that it has, as we are glad to learn, resulted in several large orders for similar rustic work.

The buildings of the AA Home, formerly two separate buildings and now one, were lighted by lamps and lanterns. Now, thanks to The New England Engineering Company, of Greenwich, we have but to turn the button, and the electric light does the rest in the buildings and the cellar. In place of acetylene for photomicrography we now have the modern Schwan Light supplied by the Chas. Beseler Company, New York City.

We gratefully acknowledge special courtesies from Lockwood & Palmer, of Stamford, in supplying hardware and some of the paint—that on Botany Bungalow. Other hardware was supplied by J. S. Davenport & Son, of Stamford, and The Jaynes Hardware Company, of Greenwich.

Contributions of much building material by Sound Beach people and by others have already been gratefully acknowledged in *THE GUIDE TO NATURE*. The full financial report of the cost of reconstructing Arcadia follows. For making all this possible, and for facilities even thus far surpassing those of any time in the previous thirty-seven years of the AA's existence, we are indebted to many friends and we recognize the fact that more than gratitude is called for.

"Unto whomsoever much is given, of him shall be much required." We are perfectly willing to accept that responsibility, and we rejoice not only in the present equipment, but in the pos-

sibilities of the future. The foundation of the new Assembly Hall is completed and paid for. We need only about fifteen hundred dollars to erect the building. We have land, or can readily obtain it, for the new dormitory that is needed, for a students' biological laboratory and for an astronomical observatory. We want a dormitory and a dining room to accommodate at least fifty students, and who knows but that the time will come when we shall here have such a University of Nature as to require accommodations for many times that number.

In the adjacent grove and the surrounding territory, we desire to erect log cabins, tents and portable buildings to gratify the tastes and wishes of those who shall come to make their summer home with us. Building lots and houses in the vicinity can be secured and added to Arcadia as it shall grow. It is generally recognized by the local community, and by the friends of the AA, that your President and his family should be personally thankful for what has been done, not only in saving a wreck, but in putting things in a condition far better than that in which they ever were. He and his family are truly grateful, but if Arcadia were to end here, or if its continued existence be regarded as a personal matter, that would be an appalling misfortune, a misfortune almost as great as that which threatened us, and from which we have so happily escaped. Let it be stated, and emphatically stated, that *we are working for a greater Institution, not for personal advantages and comforts*. We want the conveniences and the facilities to make this important work more influential, powerful and efficient in every way. The Institution needs more extensive headquarters, greater facilities for work and a greater number of co-operators, not only in the department of finance, but in that of scientific study and investigation.

We lost, as we were plainly told in our letters, our former Arcadia because it did not furnish personal prosperity to the Bigelow family. We do not know how we could more convincingly

prove that the interests of the Bigelow family are only a small factor in the ideal of a great and extensive University of Nature.

We are personally comfortable now, thank you, but we are more than ever desirous to abrogate personal matters and ambitious to go onward, carrying you with us so that we all may co-operate in building and in achieving the ideals for which we have never lost a particle of our devotion. Let there be no misunderstanding in the future. The troubles of old Arcadia arose because others placed personal benefits in advance of the ideal, and overlooked the fact that the work is absolutely and emphatically altruistic. The Agassiz Association calls from its present vantage grounds to every one for co-operation in its advance to things that are great and really worth while. We are bold enough to state that we want now not a few thousand dollars to overcome a calamity, for we have overcome that, but that *we want many thousands with which to build a University of Nature*. Everything in the trend of affairs points that way, and urges us onward. There is no better location than new Arcadia for great growth in this vicinity. The course of circumstances, through a series of surprises to everybody who participated, seems to point in one direction in a miraculous manner. Old Arcadia was a series of a continuous surprises, good and bad, to your President, and so it was to the patron who conceived the idea of building Arcadia. He must have been pleased with many things, although he was, as he said, surprised and pained, but "Through no fault of yours or mine." The gift to The United Workers was astonishing to that organization, and their disposal of the property, though meeting with universal approval, was the greatest surprise of many to your President. There has been a trend of events in all the AA affairs, as one looks back over its thirty-seven years of life, that says plainly, "With an increase of wealth and leisure, we are leading to greater things with the cry, 'Back to Nature', and with an increased interest in nature as

a factor in education." *It does seem as if we were approaching the promised land in which stands the desired University.* We have now well-established facilities for disseminating our teaching by the printed page, not only in our own well-established official magazine but in space offered to us gratuitously by many magazines and newspapers.

What we want next is a forum from which not only your President but his assistants and visiting scientists may disseminate a knowledge and a love of nature. Let us have the Assembly Hall. The time for it has come, we need it, and we need it this spring. It will not cost more than fifteen hundred dollars. Where is the lover of nature that will build it and give it to the AA? It shall to all time bear his name. Where are fifteen hundred people who will give a dollar each? Let this come and come quickly, from whatever source it may. It will be a surprise as pleasing as have been many of the changing events of the past year.

Contributions.

Previously acknowledged	\$2,838 37
Mr. Louis J. Deacon, Atlantic City, New Jersey	1.00
Mr. Maurice C. Blake, Oxford, Eng- land	1.06
Miss Francis H. Errett, Cincinnati, Ohio	10.00
Mr. Lloyd V. France, Platteville, Wisconsin	1.00
An AA Member50
Total	\$2,851.93

FINANCIAL SUMMARY OF NEW ARCADIA.

Sound Beach, Connecticut.

February 16, 1912.

Received.

Sound Beach—in addition to foundation material from three local people.\$	430.82
Greenwich—in addition to the buildings from The United Workers	500.00
Stamford	1,200.50
Elsewhere	720.61
Total Contributions	\$2,851.93
From sale of one por- table building	\$1,325.00
Paid in advertisements .	137.52
To be paid in advertise- ments	244.34
Total	\$4,558.79

Details of the contributions have been acknowledged in THE GUIDE TO NATURE and in local papers of Greenwich and Stamford.

Paid.

Part payment on land	\$ 741.60
Foundations and grounds	1,102.57
Lumber, hardware and carpentry ..	1,304.93
Plumbing	191.50
Moving buildings	425.00
Correspondence expenses	98.56
Painting—labor and paint	251.09
Electric lights--restoring, wiring, etc.	53.95
For purchase of two buildings	375.00
Balance to Assembly Hall Fund ...	14.59

Total

The books, bills and receipts at this office are open to the inspection of any Contributor or Member of The Agassiz Association.

Yet To Be Paid.

Estimated cost of proposed Assem- bly Hall	\$1,500.00
Balance due on land	1,060.00
Total	\$2,560.00

MR. J. LANGELOTH, NEW YORK CITY.

I have for a long time admired the good work which you are doing so disinterestedly.

I have much pleasure in enclosing a cheque for \$50.00 as a contribution toward the Arcadia Assembly Hall, and trust you will succeed in attaining the object desired.

(Mr. Langeloth a short time previous to this sent check for \$100 for enrollment as a Life Member of The Agassiz Association.)

I send herewith renewal subscription to THE GUIDE TO NATURE. I enjoy the magazines each month and often wish they came oftener. I thank you for awakening my interest in things that are really worth while.—*Eugene H. Horne, Stratham, New Hampshire.*

Your beautiful magazine is just at hand. I always read the pictures first, then the story of the home life of the nature lover, after that the editorials, next the advertisements, and at the second reading I finish the book. THE GUIDE TO NATURE is not at all like other papers and that is one reason why it is refreshing.—*Amelia H. Benjamin, Cherry Tree Home School, Spring Valley, New York.*



THE HEAVENS FOR MARCH

The Stars and Planets.

BY PROFESSOR S. A. MITCHELL, COLUMBIA UNIVERSITY, NEW YORK CITY.

Written solely and expressly for "The Guide to Nature." Information on astronomical subjects freely given.—E. F. B.

The coming of spring brings with it a lengthening of days due to the northward motion of the sun in its path. Through March the length of the daylight hours increases rapidly, the sun rising earlier each day, and setting later. On March 20th, at 6.29 P. M., the sun is on the equator, and the season of spring begins for the astronomer. This is the time when from earliest childhood we were taught that there are "equal days and nights set over the whole world." Naturally we imagine that the sun rises at six o'clock in the morning and sets at six o'clock in the evening. This surmise is entirely incorrect as one would very readily notice if he should take the trouble to look at even any ordinary patent medicine almanac. From such a book, it is easy to see that the sun sets at six o'clock for New York City, on March 9th, and rises at six o'clock on March 23rd. Neither of these dates fall on the day of the vernal equinox. As a matter of fact, on March 20th, the sun rises at 6.04 A. M., and sets at 6.12 P. M. There are two reasons for this apparent discrepancy. Halfway between the hours of rising and setting the sun is on the meridian. Halfway between the two times given is 12.08 P. M., or eight minutes after twelve, and "noon" does not occur at twelve o'clock! As nearly ever one knows, the sun is a poor timekeeper.

But on March 20th, the sun is up more than twelve hours, and the reason is that refraction causes the sun to rise earlier and set later by lifting the sun

up above the horizon. It is seen from the above regarding the beginning of spring that there are many facts in natural science that we all should know, but which in reality are known to very few of us.

The planets continue to be of great interest. Mars and Saturn are visible in the western sky shortly after sunset, and Venus and Jupiter are seen in the east before sunrise. On March 4th, Mars is 90° to the east of the sun and is on the meridian at six o'clock in the evening, while Jupiter is 90° west of the sun and is on the meridian at six o'clock in the morning. So that Mars and Jupiter are 180° from each other, and one rises when the other sets. In the morning sky, Venus is farther east than Jupiter.

The winter constellations are dragging themselves farther towards the west each night, while the spring and summer stars are coming more into view. The return of the stars to a given position is a surer phenomenon than the welcome return of the robin in the spring.

Professional Scientists Should Aid.

Without a doubt, innumerable bald, unphilosophized facts of living nature that would entertain and instruct, and consequently keenly interest thousands upon thousands of generally intelligent persons, are buried in the technical language of biological narration and description beyond the possibility of extraction for such purposes except at the hands of biologists themselves. Now many, perhaps not all, professional biologists are abundantly endowed by nature with the ability to do this extracting and preparing for general consumption. Acquiring the knack to do it is dependent first and foremost

on being convinced that it ought to be done. The fact that many biologists develop splendidly the talent for graphic art in response to the need of illustrating the organisms and organs with which they deal, is proof positive that the art instinct is not wanting in them; and there is every reason to believe that this instinct would come out as literary skill here and there, as well as in the form of skill in delineation.

were the need felt as keenly in the one case as in the other.

Assuming the contention to be sound that biological knowledge ought to be more widely disseminated than it is, and that so far as concerns the capabilities and desires of such people such dissemination is possible, the familiar question arises, "What are you going to do about it?"—*Professor Wm. E. Ritter, in "The Popular Science Monthly."*

THE CAMERA

"Is A Camera Worth While?"

BY W. D. KYLE, FORT WAYNE, INDIANA.

When the average camerist begins to take pictures, he wants to snap his camera at everything and everybody, but usually his highest ambition, after the first day or two, is to take a picture of a river bridge, or the "flyer" going at sixty miles an hour. After he sees

the resulting pictures for a few times, he is surprised because they cease to be of interest, and he "learns, and learns some more." Then he gets so that he would hardly take a picture of a bridge if you paid him for it.

Aside from the commercial aspects of photography, a camera may be a useful and valuable assistant in many pursuits, professions and avocations. It may be used as a "recorder" for the physician, surgeon, botanist, astronomer, zoologist, and even in home life to record the cute and cunning doings of the little ones as they change into youth and maturity. This last item alone would make it worth while in the years to come. Many use a camera only when they take a journey or have a vacation, and bring back a lot of spoiled films or plates because they do not study the situation sufficiently to make their work successful. Yet these same persons, if lucky enough to get one or two fair pictures out of each dozen exposures, think it is worth while, and will again do the same thing the next time.

If a person has a love for pictures, and will get a good camera with the best lens that he can afford, if he will study the subjects selected, the composition, the exposure under all conditions, the development and the printing, till he "knows just where he is at," he will have at his service the best



AN OSTRICH PLUME TREE.

On the St. Mary's River near Fort Wayne, Indiana.

means in the world for enjoyment, recreation, and intellectual stimulus, and will find the camera an ever-ready friend and accommodating comrade through the entire year. A true camerist learns to love his camera, and to depend on it as on something almost human. There are many kinds of pictures which are interesting and instructive to all that look at them, especially to camerists who are fascinated by the work, and according to their mental peculiarities and personal



A "READY-MADE PULPIT" OUT IN THE WOODS.

Formed from the base of a hollow tree which fell after having burned partly through.

disposition. One will take delight in getting an artistic picture of a spray of flowers or blossoms, or of even a single rose with a bud or two. Such a picture brings its own reward, for it can never become uninteresting. Another will



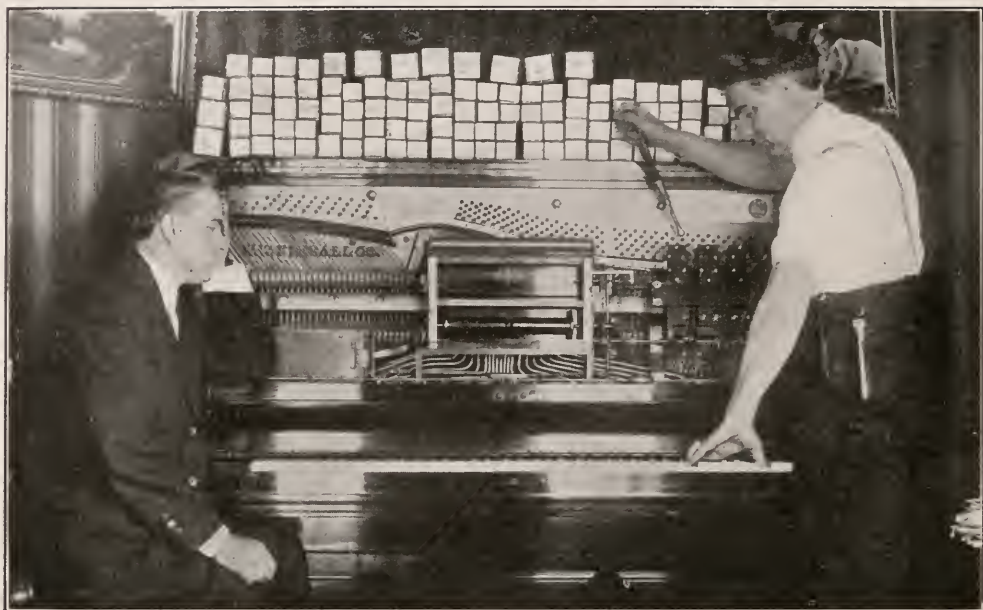
A STUDY OF PECULIAR TREE FORMATIONS. The trees are growing on the other side of a high bank or "dike," but the light was not right to show elevation.

make a study of home portraiture, indoors and out. Here broad is the field in which he may acquire knowledge.



THE AUTHOR AND A FEW OF HIS "BOYS" ON A TRIP ALONG THE RIVER.

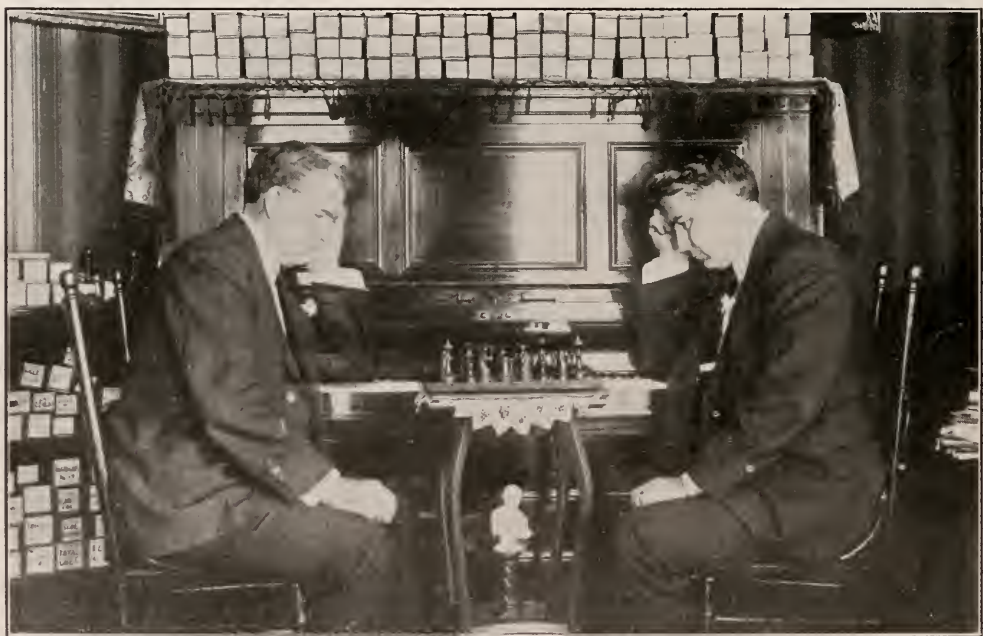
Summer or winter, mud or snow, they are always ready to go. The writer on the extreme right took the picture by pulling a thread attached to the camera.



THE WRITER "WATCHING HIMSELF TUNE A PIANO TO SEE IF HE DOES IT RIGHT."

Photograph taken by himself—two minutes' exposure on either end.

Others will study interiors, others "trick pictures" with which to amuse and mystify their friends. Among the latter is the taking of a picture of the same person two or three times on the same negative with no dividing line,



THE WRITER PLAYING CUESS WITH HIMSELF.

Photograph taken by himself with a two minutes' exposure on each end, by pulling a black thread and using a "duplicator."

and the amusement of photographing one's self by having a black thread attached to the shutter release, as a black thread will not show in the picture. Another interesting trick or "fake" is a "moonlight (?) picture made by focussing and taking a very short exposure or snapshot of the cloud-screened sun when about an hour high in the morning or the evening, with rough water and perhaps a boat or two in the foreground. Still others will be on a constant lookout for strange things in nature, peculiar trees or rock formations, which are interesting in themselves, especially when they resemble animals or human beings, or have an odd or "freaky" appearance. A leading manufacturer recently had an advertisement that contained the picture of a tree so peculiarly shaped that it resembled an elk's head. But these, although interesting, and making a valuable addition to a side department of the camerist's album, should by no means be the primary or great underlying object in using a camera.



A PECULIAR "STUNT" FOR A TREE.

The immense weight of the upper part of the large limb at the curve, forming a "trap" or brace to support the weight.



A WIDE BASE.

Three small but very tall trees, near Lake Everett, now called Lake Tonawanda, near Ft. Wayne, Indiana, were blown down in a storm, and this picture shows the enormous mass of roots and earth enclosed in the entwining roots, the size of which can be judged by the size of the man standing in front.



GOOD PHOTOGRAPHIC STUDY OF ANGORA GOATS.

Angora Goats.

BY BURT STONE, LU VERNE, IOWA.

The Angora goat is a great improvement over the common goat with which most of us are familiar. He is gentler and handsomer. In the Ozark hills, the Angora is the farmer's assistant in clearing the land. If he likes to eat anything better than brush, it is more brush, and he generally gets it. He climbs to every part of a fallen tree, and a good fence is needed to keep him within bounds. Climbing the braces of a corner post is a common stunt for him. He is a wise fellow too. One gentleman, in the habit of feeding his poultry from a pan, left a remnant of the food in the dish for the next meal. He always found the pan undisturbed but the food was gone. This happened several times before he learned the cause. The goat inside the fence climbed the brace of the corner post, reached over the fence and helped himself, not even upsetting the dish. The wool of the Angora is fine like silk and makes beautiful rugs. He is

more like a sheep than the common goat, also more useful and more valuable to his owner.


Cut Flowers.

BY MRS. HOLMES (LA RUE HOLMES LEAGUE).

You are fond of cut flowers?—then do not crush their sap-vessels by cutting them with some dull scissors, thereby preventing the absorption of water. If they are kept for any length of time out of water cut the stems afresh, lest the sap may have become coagulated, which would prevent the free admission of water. A sharp knife is the best instrument for such use.

When flowers are kept long in a close box, avoid bringing them suddenly into a warm, sunny apartment; if possible place them, if much wilted, on a pan of wet moss or sand and cover them from the light and all heated air, for a while before putting them in an upright position in water, where they are to remain.

CORRESPONDENCE AND INFORMATION



Prevent; Not Kill Nor Blame.

Fairfield, Connecticut.

To the Editor:

I wish that sometime you would write on the subject of cats and birds. Here is a paragraph from a letter by a little girl of ten years, written to a magazine:

"I have five cats, but they are not bird killers. If they were I would kill them all."

Will you kindly inform me why a child should be brought up with the idea that it is any more right to kill cats than it is to kill birds?

The cat was born with the instinct to catch birds. Why should we blame it for doing that which it is its nature to do? Human beings kill cattle, pigs, sheep, chickens, pigeons and numerous other living things, for food. Very few people have anything to say against this, but if a cat kills a bird, it is a "horrible animal, not fit to live."

Let me say right here that I am a bird lover myself. Twice a day I take a cup of seed and bread out for them. On account of my neighbors' hens, I have been obliged to arrange a receptacle for it on the fence. This "bird restaurant," as I call it, is well patronized. I have often counted twenty or thirty birds enjoying themselves. It is but a few feet from my back door, and my cats sit in the dining room windows and watch the birds. Whether or not they have any desire to make a meal of them, I am not prepared to say. They never have caught a bird, as they never have had a chance to do so. I never allow them out unless I am with them, and they are not allowed to trespass on my neighbors' property.

It would cause me a great deal of distress if I saw them catch a bird, just

as it would distress me to see anyone kill a chicken, but I should not blame the cat for doing as nature dictates. I should blame myself for allowing the cat a chance to get the bird.

People should keep their cats at home, just as they should the rest of their live stock; but if they do not, and a cat kills a bird, let the owner be blamed and not the cat.

Very truly,

MRS. LILLIAN B. TEW KELLEY.

He Reads Even the Local Advertising.

Lansing, Michigan.

To the Editor:

Herewith is an imperfect (light struck) photograph—but the best one I have—to show a remarkable oak tree whose body from the ground up about forty feet is very straight and perfect and then it forms a crotch and either side is fairly straight, and about eight feet it forms a solid body again even larger than the main trunk below.

In this historic (to us in Michigan) old farmyard are fifty-two large sturdy oaks. The rest of the timber, about three hundred acres, belonging to this estate of 3160 acres has been cut off and there is a very fine growth of young timber fast taking the place of the old forest. Michigans greatest statesman, Zach Chandler, bought this large tract of land, called the marsh farm, in 1857, and had he lived it would have been made the Garden of Eden. As it is, it is a fine place for nature study as there are all kinds of birds and snakes. There are rattlers as large as your wrist and blue racers and black snakes four to six feet long. The marsh in the springtime is literally alive with snipe, plover, duck of all kinds, bittern, rail, and best of all the beautiful sandhill crane, but too shy to be seen only

on the wing. It is too bad we cannot bid our friends of the feathered tribe a good-bye when they take their departure for their winter home.

Adjoining this beautiful grove spoken of above I have my apiary of



THE REMARKABLE OAK TREE.

one hundred and fifty hives composed of the finest bees I can import from Italy and the Caucasus. I also have one of the best cellars for the successful wintering of my pets I have seen.

I had rather miss a meal than to miss one small piece of the rich goods to be found in *THE GUIDE TO NATURE*. I even read the advertisements in the fore part which is nearly all local, and in them I may find something that will be of benefit to me.

I did enjoy the reading of the Lockwoods, then the beautiful story of the beaver. I have heard many speak of this rare animal and I fail to have any one answer how they carry their mud

for filling the crevices to their dams.

As long ago as I was a small boy I can distinctly remember of seeing woodchucks climb trees. I have often seen them up in the first limbs of low trees near their holes sunning themselves and if you will find a hole near a tree that is not too large and the limbs are from eight to twelve feet from the ground you will see them up there watching for intruders. Especially if they dig holes in the woods they will climb quite high up.

Yours for business.

A. D. D. Wood.

Protective Coloration of Toads.

New York City.

To the Editor:

Common things or phenomena do not excite much thought, but the unusual object or the strange act arrests our attention. It is known that many birds and animals have markings that, to a certain extent, give them a resemblance to their surroundings and so protect them from their enemies, but as a rule we do not consider the common toad as within this category, nor as worthy of observation in this connection.

At my city home we have only a small yard but we try to beautify it with shrubs, flowers and even an aquarium. Many insects regard my garden as their proper home and the plants as a gratuitous feast. I have long intended to introduce a toad or two to fatten at the expense of these foragers as they flourish at the expense of my foliage.

The opportunity came a few nights ago when we were in the country, where, on our friend's lawn, we picked up two full-grown toads, and carried them home with us, a little soil and grass being put in the box for their comfort. Next morning the pair were as bright and lively as prisoners could be. Their eyes shone and their noses and long toes were actively trying to push their way out through the narrow slit in the lid. But instead of brown creatures, we had two lively, rough-skinned prisoners with the color of a ripe muskmelon. We admired them

frequently as we came to town by train, and liberated them at once where their grey and yellowish color was in marked contrast to the dark green of the grass.

We intended to consult the new library to learn about our new variety of toad, but alas, on going to find them toward night they were on the bare, damp ground and had again become plain, dark brown toads, the ordinary *Bufo lentiginosus*. There they are awaiting the flies, ants and insects in general.

WM. L. STOWELL, M.D.

He Saw the "Moon Dogs."

To the Editor:

As per your request, I herewith send you an illustration of the "moon dogs," which I told you I had seen last year, on the Atlantic Ocean. The phenomenon lasted for over one hour, changing at intervals, sometimes disappearing and then reappearing. I had been playing bridge, in the smoking room and came out of the smoking room perfectly sober, not having imbibed anything else but lemonade the whole day, to take a breath of fresh air before retiring, when I looked out over the ocean, I could hardly trust my eyes, as I saw five moons instead of the usual one.

Next morning, when I told my experience to the other passengers, they had a great deal of fun at my expense and wanted to know, what I had been smoking in the smoking room that night. I told the story the other day to a few people in Stamford and they also point blank assured me, that such a thing was impossible, that they had never seen more than one moon at a time, except on special occasions, when they had come home from club meetings and altogether I had a very hard time, to convince anybody, I ever talked to, that what I had seen was not an image of my imagination. The different moons were connected by rays of light and there was a circle of light connecting the four outside moons. The captain next morning told me the phenomenon was very rarely seen and was called by the sailors, "moon dogs." I

read a few days ago, that in Chicago, for over an hour, "Sun dogs" were visible, appearing over Lake Michigan. I can assure you, that the spectacle



MR. UHRLAUB'S PENCIL SKETCH OF "THE MOON DOGS."

was very weird and I can readily imagine that savage and superstitious people, would ascribe to such an apparition, the foreboding of war, pestilence, plague, etc., as we read, used to be the case in the middle ages.

Sincerely yours,

JOHN C. UHRLAUB.

The phenomenon is caused by the refraction and reflection of the light from the moon by innumerable small crystals of ice or snowflakes. But as a full explanation would be somewhat

lengthy. I will have to refer you for the details to Volume IX of the New International Encyclopaedia which is probably the most convenient reference. Prof. Willis L. Moore's Descriptive Meteorology, New York, 1911, has a clear explanation accompanied by three diagrams. Pernter and Exner's Meteorologische Optik, Leipzig und Wein 1910, treats the subject fully and contains numerous drawings, one of which is similar to the inclosed. It was drawn by Hevelius after the phenomenon had been observed by him on December 17, 1660.—*J. L. Jayne, Captain, U. S. N., Superintendent Naval Observatory.*

Robins in Winter.

Galena, Ill.

To the Editor:

Yesterday, while on a trip in the country, I came across a flock of ten robins on the south side of a rocky hill busily engaged scratching among the leaves and dead grass which had become uncovered by the melting away of the snow. The day before I heard one chirruping at a distance but could hardly believe my ears even of such a familiar note. Upon inquiry among the farmers, I was told that robins have been seen during the entire month of January. The robin redbreast has been an unheard of visitor in this section of the country during this month.

There has never been such extreme and continued cold weather within the recollections of the oldest settlers as has been experienced this winter. It is a wonderful fact that these summer birds could endure and live through such frigid weather. These friendly and much loved birds were hindered in their migration last fall by the continued rainy weather. This inclement condition continued until in December. Food of every kind was plentiful. Then there came two weeks of warm spring like weather followed by a sudden drop in the temperature of 60 degrees within twenty-four hours. Real winter set in and continued extremely cold since. The birds had no chance to get away. There is an abundance of dried wild grapes and other food which these birds may find to eat. One farmer re-

ports that a flock of robins came in and fed with his chickens.

Yours very sincerely,

B. L. BIRKBECK.

Some Teachers Need Educating!

Grantsville, Maryland.

To the Editor:

A few years ago I raised thousands of silkworms as an experiment for a study in school, and curiosity and some special interests brought for my silk a first-class price on a small scale in Washington, D. C. But I have learned from experience that not all teachers are interested in nature study. A point in case: A man with a box of mounted insects and clover roots once gave a lecture at our annual County Institute. At the hotel a rough spoken fellow, included among the ranks of teachers, inquired of me, "What did that damn fool want with the box of bugs in Institute this afternoon?"

Yours truly,

LEO. J. BEACHY.

A Fool May Be the Wisest of Men.

I gladly give my influence to such movements but find it necessary to support my family as I go along. I have no endowment in the form of bank stock or some other income producing property and have to keep busy in order to keep the pot boiling. A man is a fool, however, who takes up this line of work expecting to make money out of it. I could make many times the money in commercial pursuits, yet I am living a larger life and putting more into it, as well as getting more out of it, as it is.—*Frank C. Pellett, Atlantic, Iowa.*

A New Kind of Mosquito Larvae.

The pupils of the Sound Beach school recently visited Arcadia and saw the trout eggs hatching. The eggs are placed on a wire tray and as the fish hatch they fall through and then wriggle around in the water. One of the younger boys exclaimed at once as soon as he saw these: "Oh, I am so glad to know what these things are because I have often seen them wriggling around in the rain barrel and never before knew what they were!"



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

Geological Work by the Chapter at the Y. M. C. A. Training School.

Springfield, Massachusetts.

Report to The AA:

On October third our Chapter began its fall meetings with a goodly number present. Several suggestions were made for this year's work and it was decided to take up the study of geology, and to apply it especially to Springfield and its vicinity.

We are especially fortunate in having in our faculty two professors, Mr. G. B. Affleck and Mr. Ralph L. Cheney, who are personally interested in this study.

On our annual Mountain Day the Chapter, under the leadership of these two teachers, made the trip to the mica quarry in the vicinity of Woronoco. Many specimens of garnets, mica and different kinds of quartz were obtained. Much interest and enthusiasm were manifested in the obtaining of these specimens.

A trip is planned for the latter part of this week to some of the old Indian mounds to be found in this vicinity.

Hoping for your success in your work for the Association, I am,

Your truly,

CHAS. B. RUSSELL,

Secretary-Treasurer.

Appreciation from Halcyon, California.

Your several notices of conditions and trials and courage, and the ever regular *THE GUIDE TO NATURE* have all been received, and this goes forth to you from the Halcyon Chapter of The Agassiz Association to let you know that none of the above have been overlooked by us.

We have passed through some tests as a branch, and have had to find

whether we were worthy the name and association of such a worthy work as we recognize The Agassiz Association to be.

We want to tell you that we are still here, and like the granite foundation stone of which we studied in our first meetings, we mean to stand and hold good while things and conditions come and go, and be in position soon where we can be of help to the Association generally, for *we thoroughly admire its fine character.*

We are planning public talks on physiological and hygienic subjects this winter with microscopic slides and charts sent out by Berkeley. Our resident physician, Dr. W. H. Dover, will give the lectures.

In a little time we hope to call one of the Stanford professors here for a projection lantern talk—he having expressed himself as willing to come.

With best wishes to the noble work and hoping to send more than wishes a little later, I am,

Very sincerely,

MRS. JANE W. KENT,

President.

An Active Chapter.

At the last meeting of the Wendell Phillips Chapter of The Agassiz Association we elected our officers for the coming semester. The new officers are: President, Earl Smith; Vice-President, Marion Porter; Treasurer, Allen Dryden; and Secretary, Rani Boomer. As this is the end of a school semester it may be well to give a report of what we have done since the beginning of school in September.

This fall we made several field trips, under the supervision of our faculty

sponsor, Professor Hand, inspecting glacier work on some hills a short way from Chicago, collecting insects, shells and various other curiosities, and making good use of the camera.

We have also done much along the social line. Early in December we gave a progressive dinner party that was the talk of the school. We served the various courses of a sumptuous turkey dinner at the different members' houses, going from house to house in automobiles, also belonging to our members.

At a recent meeting one of our members, Robert Hilpert, donated to the Chapter a set of "Animate Creation" which we intend to have bound.

We have at various times distributed copies of *THE GUIDE TO NATURE* among the members of the club for them to look over and find something of interest to tell the club about. Everyone was delighted with the magazine which certainly is a guide to nature, and one which you can well be proud of,—indeed, we all are. However in the distribution of the books some were lost, and as we do not wish to miss any copies, we would like to know if they could be replaced.

At present the club is working on a play, "Lulu," to be given the latter part of the month. With the money that we hope to get from this play we intend to make many necessary improvements, such as getting suitable cases for our collections, etc.

Although I have now graduated from Wendell Phillips High School, I have become so interested in this Chapter of The Agassiz Association, its work and fun, that I still intend to keep in close touch with it.

Trusting that your work may go steadily on we remain,

Yours fraternally,

Wendell Phillips Chapter of the AA.

ROBERT P. VANDERPOEL,
Ex-President.

Hope the magazine will continue to improve in the future as it has in the past.—*Nelson Lundvall, Bozeman, Montana.*

Taking Nature to the Public. A New Idea.

BY FRANK C. PELLETT, ATLANTIC, IOWA.

In a personal letter to the writer, not long since, Dr. Bigelow wrote as follows: "Did it ever occur to you that one of the most dangerous things in this world is to think new thoughts and to do new things, except to the few—" etc. The more I think of it the more apparent it becomes that he is right. New ideas are seldom appreciated—while they are new.

It was certainly a new idea that Mr. VanHynning, director of the museum of



THOMPSON VANHYNING, DIRECTOR OF THE
MUSEUM OF IOWA HISTORICAL
DEPARTMENT.

the Iowa State Historical Department, outlined to the Iowa Academy of Sciences a few months ago, when he proposed to enlarge the scope of the institution to minister to the needs of the young people of the entire state, and

to establish a branch in every community in connection with the public school. The Iowa Historical Department is housed in a magnificent building across from the Capitol at Des Moines, and is maintained at considerable cost to the State. Only a small portion of the funds of the institution are expended on the museum, yet to ninety-five per cent of the visitors the museum is everything. Mr. VanHyning has long been connected with the museum; in fact he has made it what it is. When he first came to the department the museum was but a confused lot of

contact with the rank and file, he has learned the need of the general public for an educational museum. One can never realize how little the average person knows of our common wild life, until he has spent a few hours in a museum on visiting day, and taken note of the comments of the visitors. After patiently explaining common things to an unappreciative public for years, and finding that the average high school graduate, while proficient in Latin and geometry, and well informed on the history of ancient Rome, is yet unable to distinguish between a bluebird and an indigo bunting in his own front yard. Mr. VanHyning developed the plan which he has lately unfolded. Inasmuch as only that part of our youthful education that we put to use, remains with us, a knowledge of common things acquired at the right time will be of more value than ancient history or higher mathematics, which will not be of use in the particular line of work that we shall choose to follow. Dr. Frank Crane recently expressed it in the Iowa Capital in far better language than I am able to apply and coming from such an eminent man it should carry more weight. He says:

"When I find a billion dollars, I am going to establish the Great university of Outdoors.

As to studies, first of all higher mathematics and the foreign Languages, and the Dead ones, will be optional; these being mere ornamental appendages to culture, and their present importance in schools being nothing more than the post-humous influence of the long since dead idea that education is intended to equip a "Gentleman" or "Lady." Universities are monarchic hold-overs in a day of democracy. Their fundamental idea, that of producing the Exceptional man, being wholly vicious. Our schools should produce the trained, cultured, dynamic Common man.

The things the youth will study in this university of Outdoors, therefore, after Reading, Writing and Arithmetic, will be carefully selected with a view to Developing the Individual Personality, and not for the purpose of shaping



A WELL-MOUNTED PAIR OF FLICKERS.

curios brought from various sources and placed on exhibition without any thought of order. He has classified the specimens, labelled them, and as far as circumstances permit, placed them on exhibition in an orderly manner. From a handful of material, the museum has grown until it begins to be a credit to the State it represents. When visitors come, Mr. VanHyning makes it his personal business to show them the things they want to see. By personal

him on the Procrustean Bed of an artificial, arbitrary, imaginary ideal. The instructors should study the pupils. In fact, all the studying should be done by the teachers. The children should



CATBIRDS AND NEST.

Play only. And only those teachers should be selected who know the Secret of Teaching, which is how to make Play out of Work. The one aim should be to Develop what is in a child, and not to cram anything into his brain or trim him, as Japanese trim trees, into some fantastic, conventional shape."

The VanHyning idea in brief is as follows: to make every school a branch of the State Museum. Those who are intimately acquainted with nature are seldom destructive, and the shortest road to conservation is by way of the public school. The State museum has the facilities for preparation, and expert care of specimens, and by cooperation with the school could, if proper provision was made, care for the thousands of specimens that are now wasted and make them up into small school collections at a minimum of

cost. At this central institution duplicates would be exchanged, and things common in one part of the state exchanged for those of some other region. This plan if vigorously followed in connection with the present nature study movement, would result in widespread interest among the school children and a greater appreciation of nature objects among the rising generation. The accompanying photographs show his plan for educational groups. The birds are shown with their nest and eggs so that by comparison one can identify any that he finds. Similar plans are followed for other branches of natural history.

Mr. VanHyning seems to have the idea that he is about the homliest man in Iowa, which if correct would be quite a distinction. On the contrary when you know him he has a very attractive personality and is one whom any man may feel proud to call his friend. I have been struck with the likeness of the man in form and figure to that of Lincoln. This is especially noticeable when he is walking away from one. He is all wrapped up in his work, and his salary seems to be only an incident to him rather than the chief end of labor.

In my opinion, his plan of making each school a branch of the State Museum, if carried out, will be the best thing ever proposed for the advancement of education along natural lines. By this plan the children of each community will gather their own material, to be prepared by the State in the laboratories of its central institution, and later be returned to the school for permanent preservation. Perhaps a generation will pass before the general adoption of the plan, but if the matter is properly appreciated and sufficiently agitated, it will come into gradual use and each community will have a museum of its own which will increase in usefulness and value with the years, and shortly take its place beside the public library as an educational institution for the masses.

Notes on Moss Study.

BY A. J. GROUT, PH. D., NEW DORP, S. I.

Before the founding of the Sullivant Moss Society, first organized as a chapter of the Agassiz Association, very little amateur study of our mosses was undertaken as it was the general impression that one could not study mosses without a compound microscope. Besides this there was no American literature available for such work.

When, in 1897, I had finished my graduate work at Columbia, I decided to devote my spare time to making popular study of mosses possible, rather than expend all my energy in more critical taxonomic study. This decision resulted in the *Bryologist* and in my two books on mosses, notices of which have appeared in the advertising columns of this paper.

What biologic science needs to-day is an increasingly larger number of reliable and widely distributed observers. The great weakness of much biological theorizing is due to insufficient observational data. Darwin's success in propounding theories not essentially new was due to the vast collection of observed facts, made with his almost unparalleled patience and persistence.

It is well within the bounds of fact to say that our knowledge of the North American Moss Flora has been more than doubled by the members of the Sullivant Moss Society since its foundation. Moreover, only a few of the members can be classified as professional botanists.

I am writing this article to enlist the interest of the members of the Agassiz Association in the study of my favorite plants for their own pleasure and also because they can easily add to the sum total of human knowledge by their careful and recorded observations.

The moss plant consists of a more or less branching stem, covered with leaves and fastened to the soil or other substratum by tiny radicles, which are not true roots, but are much like the root hairs of flowering plants. Remember that mosses do not produce

flowers and seeds, but like the ferns, produce spores which do the work of seeds, though quite different in structure and in relationship to the rest of the plant. These spores in mosses are borne in little pods known as capsules, which are usually borne on slender bristle-like stalks called setæ. These capsules open by a lid much like that of a common kettle, only the lid is highly convex, or even ends in a long beak in some species.

Go out in your own yard and look in the moist shaded corners among the grass stems, or even on the shady side of the basement wall and you will find moss plants in plenty, even in the city. Most of these will be indeterminable, but in May or June you will be able to recognize the Urn Moss and a little later the Cord Moss with its queer ridged, one-sided capsules. On the walls or in damp places along the walks, especially if mortar be present, you may find the Hair Moss with its slender hair-like leaves, or perhaps *Ceratodon* with its dark brown ridged capsules. In dry waste places or along walks you may find the Silvery Moss, which is short and compact and of a pronounced silvery color. All of these, except the last, I found in my yard in Flatbush, Brooklyn, and several others besides. A trip to the fields and woods most anywhere will yield one or more species of the Hair Cap Mosses with their square (or cylindrical) capsules and wig-like calyptras.

In moist shaded places in fields and woods, or even in city parks, will be found one or more species of *Mnium*, characterized by their broad leaves, much curled when dry. Their capsules are pendant and bright and fresh in spring, but brown and withered as the season advances.

But to see the mosses in their glory, go to the deep mountain woods and delight your heart in them as did Ruskin in his "Leaves Motionless." The Mountain Fern Moss, the Plume Moss, the Ragged Moss and the deep golden green of Schreber's *Hypnum* will greet your eye and you will know them at sight if you have with you in

your mind's eye the pictures here given.

Then if you wish to know more of these beautiful plants, join the Sullivant Moss Society, organized on purpose to help you. There you can get your puzzle solved and can exchange your treasures for others through its exchange department.

A Plea for Stronger Corporation.

To the Editor:

Hyde Park, Mass.

I wish we might have in our magazine more articles with good illustrations on actual observations of wild life. It would seem with the many readers of this magazine from all parts of the world that there should be so much interesting matter on all sorts of nature subjects offered to the Editor that he would have difficulty in choosing which ones to publish first, instead of having to do most of the writing or chasing up subjects and articles himself.

It appears to me that too much has been left to our faithful editor, and too little has been done by our readers in the way of cooperation. The present condition of affairs at Arcadia, with which our readers are all familiar, tends to show this to a certain degree, and the time seems ripe, therefore, for a marked increase in the interest and efficiency of our magazine, as well as in the moral and financial support of the work of our organization and its permanent home. Let us have a magazine bubbling over with the freshness and beauty of Nature in the woods and fields. There is always something new to inspire us in this fascinating study, and why not tell each other about it and share our enjoyment? It may be something common, but hitherto unnoticed by us, yet there may be hundreds of others to whom, like ourselves it is new. Last night I discovered for the first time a katydid making a peculiar sound which I had heard often, though had never before known its authorship, and with the help of my pocket flashlight I had an excellent opportunity to study the actions of the insect and watch the curious move-

ments of its wings which produced the sound.

No magazine published has a larger field from which to find material than has our GUIDE TO NATURE, and it would seem that if its readers generally would send in something which they have found of interest, and thought might be helpful to others, we could safely leave it to the editor's judgment to select the best for publication. I think many fear to send because they do not consider themselves writers, or because they believe what they have found is not new. This should not deter us from trying, however. I once heard the eminent Dr. Howard tell of a German friend who was out walking and saw "some things" which he did not understand, and the describing of which led to some important and interesting discoveries in the entomological line. He told of this to illustrate the importance of individual observation and original research, and urged upon us all to be more careful in making our observations and to record accurately what we see.

There are hundreds of things in nature that are yet puzzling the scientists. There are many sounds the origin of which we can not find recorded in books, and the complete life histories of many of our common insects are not yet known. Individuality in manners and customs among the wild things is constantly being impressed upon us, opening up a large field for careful observation, and one, which is constantly increasing in value. Why should we not find out and record some of these things in THE GUIDE TO NATURE? One hundred pairs of eyes are better than one pair, and some of us are sure to see things that the others do not, and some of which at least should be worth recording.

One special subject I wished to mention concerning the magazine was the withdrawal of the monthly sky maps in the department of astronomy. I have heard several others mention the value and helpfulness of these maps, and remember my own vain searching for them and regret to find that they were discontinued.

I should like to hear the expression of others on this subject, and also your own ideas on what we ought to expect of the magazine, and how best we may cooperate with you in making it better. Perhaps many of us do not understand just what you want. It seems as though we ought to "get to-gether" more than we do, for whether our favorite subject is stars; birds; minerals; bugs, or trees, we are all (or should be) seeking the same thing in our study of Nature. If it brings us no thrill to watch the sunset; no inspiration for better and nobler things, and no vision of the Infinite as we study the curious and interesting things in our strolls afield, then our strolling and our watching is in vain. Let us work for a Nature study and a magazine that will help our brother and ourselves to live a nobler life, and to make our homes "near to Nature," not only in external appearance, but in our devotion to duty and our resolves to live as the great Guide and Master of us all would have us live. Let us not forget the example of the distinguished Agassiz, for whom our association was named, and let us ever remember his high principles, which have become incorporated in the words of our motto "PER NATURAM AD DEUM."

HARRY G. HIGBEE.

Good words and true.—ED.

Now Build and Uplift.

It will not be all the same a hundred years hence. Now is the time to strike a new creative thought—to bring this thought into action, so that in a hundred years it may become a reality. To move onward, to build, to uplift, is the duty of the present for the good of the future. What we think and do to-day will influence to-morrow. Things must ever change, and it is up to us, now, to change them for the better and not for the worst.

The animal and vegetable worlds must do their natural part in the process of creative evolution, but man alone is original—can create a new reality.—*Mrs. Rufus Hinton in "The Central Baptist."*

Our Staff of Lecturers.

The Agassiz Association believes that one of the most effective methods of fulfilling its mission of "creating and increasing a knowledge and love of nature," is by word of mouth. We are inspired by the other fellow, not only by his logic and information but by his personal enthusiasm.

Our original Charter of Incorporation, in 1892, under the laws of Massachusetts, and the one of 1910, under the laws of Connecticut put prominently as one of our purposes "the employment of observers and teachers in the different departments of science, and the general diffusion of knowledge."

We hope and we expect that the time will soon come when the AA will possess sufficient financial means to carry out this important plan more systematically. We want to employ regularly several lecturers and scientific assistants to do this work in all parts of the country, sending them out as nature missionaries and wholly or partly at our expense. Till the time arrives when we shall be able to employ such teachers, the best that we can do is to recommend such lecturers as we believe will so present a knowledge and a love of nature as will best fulfill the purposes of our Association. At present we are glad to offer the following Staff of AA Lecturers, whose expenses are to be borne by the persons engaging them although special terms may be had if reference is made to the AA. Correspondence may be directly with the lecturers or with the AA. We will gladly advise when requested, and when full data as to the needs are given us.

Ernest Thompson Seton, Cos Cob, Connecticut:—"No figure in American life is more prominent than that of Seton. If he could have his many sides and sympathies condensed into a title, that of 'nature apostle' would clearly express the motive of his activities. "Boy nature, bird nature, animal nature, trees and plants, all appeal to him, and around each he weaves the charm of his own personality, and in the recounting of his impressions and theories he gives the listener a new view-point and a greater touch with the subject." He offers a long list of lectures illustrated by his own drawings and by photographs. Mr. Seton is Chief Scout of the Boy Scouts of America.

Professor S. Alfred Mitchell, Columbia University, New York City:—His lectures on astronomy are free from technical language, and are copiously illustrated by the best modern photographs. He is a lecturer of pleasing personality and with wide experience. Lectures may be given singly or in a consecutive course, on such subjects as "The Moon," "The Sun, Its Light and Heat," "35,000 Miles with an Astronomer on Eclipse Trips," "Is Mars Inhabited?" etc. Professor Mitchell is well-known to our readers.

Silas H. Berry, 331 Clipten Place, Brooklyn, New York:—In a long list of lectures on "The Cycle of Life," of especial interest are those on plants: I. "Wonders of Plant Life." II. "The Message of the Flowers." One or two evenings. When using two, the second is called, "Some Higher Mechanisms." III. "Fruits and Food Plants." Gives the origin of cultivated plants, what has been done for their improvement by Burbank and other experimenters. IV. "Carnivorous Plants." Shows the devices of insectivorous plants to attract their prey. Mr. Berry has made a specialty of Young Men's Christian Association work.

Dr. Elliott R. Downing, School of Education, University of Chicago, Chicago, Illinois. "Feathered Itinerants," "The Friendly Trees" and other topics. Dr. Downing has been remarkably successful in training teachers of "nature study."

Ernest Harold Baynes, Meriden, New Hampshire:—"Common Wild Animals of New England," "The American Bison or Buffalo," "How to Feed and Attract the Wild Birds," "My Animal Guests," etc. Mr. Baynes describes remarkable experiences with four-footed animals and with birds. His story is well told and illustrated. He is a remarkably good field naturalist. He knows nature intimately.

Howard H. Cleaves, Public Museum, New Brighton, S. I., N. Y.:—Ornithology. Particularly photography of wild birds. Original observations in the field. Unique and surprising photographs of the living, wild creatures in their chosen habitats. Mr. Cleaves is a young man full of enthusiasm and of a knowledge of nature.

Frank Durell Baugher, 1200 North Broad Street, Philadelphia, Penn.:—Lectures mostly on travels. His best nature lectures are "The Story of a Coral Island," and "Florida and the Gulf Stream." Mr. Baugher is an active worker in several organizations of naturalists.

Edward Avis, Enfield, Connecticut. Bird mimic, whistler, violinist. Mr. Avis is a master in the art of reproducing the songs and calls of the birds. Whistling, violin and magnificent stereopticon slides make his lecture much in demand.

Frank C. Pellett, Atlantic, Iowa:—Subjects: "Passing of the Red Man" (illustrated.) "Our Back-door Neighbors" (illustrated.) "Bees" (with live bee demonstration). "Economy of Nature in the Plan of Eden." "Little Giants." In addition to this course Mr. Pellett gives many lectures in series such as are prepared for special classes, etc.

Dr. W. S. Beekman, Dayton, Ohio:—"Wonders of Nature," geological, mineralogical, etc. Ruskin's Story of Crystal Mysteries, etc. popular nature study talks. Dr. Beekman's slides are beautiful, the subjects are popular, and his illuminated slide-texts, are entertaining and instructive.

Beecher Scoville Bowdish, Demarest, New Jersey:—Bird protection and the economic value of birds. He also has lectures on the pleasure of bird study. Mr. Bowdish is chief clerk of the National Association of Audubon Societies, and is thoroughly conversant with the latest progress in bird interests.

Mrs. Henrietta W. R. Frost, Winthrop, Massachusetts:—A series of very interesting lectures on stars, trees, seasons, birds, ferns, nature philosophy, etc. Mrs. Frost gives a Summer Course in nature study at "The Maples," East Derby, New Hampshire.

Herbert K. Job, 291 Main Street, West Haven, Connecticut. His popular lectures treat of any desired phases of bird life, enlivened with racy narratives of adventure in the open, each lecture being illustrated by about one hundred beautiful and unique colored lantern slides, all from photographs taken by the lecturer himself.

Dr. Edward F. Bigelow, Arcadia: Sound Beach, Connecticut:—A variety of topics for Teachers' Institutes, Schools, Clubs, Churches and General Audiences. Especially interested in human lessons and inspirations from nature.

J. EDW. BROWN, STAMFORD, CONNECTICUT.

I see by the copy of this month's issue that Arcadia is getting along nicely and I certainly am glad to know it. You deserve great credit and I admire your ability to stick to and bring interest in what looked very blue for a time.

I now have received THE GUIDE TO NATURE for a year and find it a very helpful and pleasing book that makes a fellow's eyes feel good who loves nature.—*N. Howard Brewer, Hockanum, Connecticut.*

The La Rue Holmes Nature Lovers League

By George Kingle, Summit, New Jersey

"THE GUIDE TO NATURE" is the official organ of the LaRue Holmes Nature League. It is important, for the general League interest, that the magazine be liberally supported, through the active cooperation of League members—George Kingle.

L. H. Nature League Motto: "Self-sacrifice; heroism for another."

Reports concerning conditions on the L. H. Nature League Bird Refuge, on the New Jersey coast, off Stone Harbor, state that the recent season was a very favorable one for the occupants of the island.

The Short Hills High School Chapter organized in January. The following names officers being chosen: Pres. Catherine Campbell; Vice-Pres. Jean Baker; Secretary, Ruth Gosling; Treasurer, Charles Schenck.

The book entitled "Useful Birds And Their Protection," by Professor Forebush, State ornithologist of Massachusetts, will be presented, as a prize for the best paper on the subject; The Economic Value of Birds; manuscripts to be presented to the General Secretary by March 15th.

The most recent additions to the L. H. Nature League membership are the Neptune School Chapter; Ocean Grove; the High School committee being Glaydes Fritchcroft; Helen England; Anna Diehl, and Florence Howard; the Cranford High School Chapter; Pres. Eugene Lawler; Sec. Clarence Pansee; Treas. Elmer Packer; and the Lincoln School Chapter, Westfield. All of New Jersey.

January 30th, 1912. Thermometer registers sixteen below zero, but a phoebe is forcibly telling his name.

February 10th. Early morning; thermometer at ten below; phoebe telling that he is there.

February 9th. Miss C. B. Thompson of L. H. Nature League, Asbury Park, N. J., reports a song sparrow, a white-throated sparrow, and a flock of red-polls and gold finches seen during the recent cold days.

Notes on the English Sparrow.

BY ALFRED C. KINSEY, SOUTH ORANGE, NEW JERSEY.

Not to take the other side of the question just for the sake of argument, but to present fact for scientific knowledge, this last summer I learned that the English sparrow at times does some good. When the periodical cicada was present in greatest numbers, throughout at least the vicinity of South Orange, New Jersey, this sparrow was very beneficial, not only in destroying these insects—the cicada did little harm—but serving as a scavenger. At times the dead cicades were actually a nuisance. But the sparrows soon obtained control of the situation and cleaned the streets, eating little else for a number of days. It was interesting to note that in many observations the procedure of the sparrows was the same. The insect was usually caught by one wing; placing the cicada on the ground, the bird, with its beak, broke off the wing by turning it back. The insect, thus disabled, was at the mercy of the bird, which broke off the other wing, and the two smaller wings. Then the bird cut the insect in two, at the joining of the thorax and abdomen, eating out the abdomen, leaving the hollow shell, and passing to another.

This observation, as well as others I have made, bear out the belief that the English sparrow is at times insectivorous and beneficial. Though I must add that I still believe its injury is great in driving out such birds as the bluebird and house wren, both of which I have observed are deliberately driven from their nestings by the sparrow.



'Tis not in mortals to COMMAND success, but we'll do more, Sempronius, we'll DESERVE IT.—Addison: Cato.

Incorporation of E. B. Meyrowitz.

Mr. E. B. Meyrowitz, the well-known optician, whose advertisement has appeared in *THE GUIDE TO NATURE* for several months, and who has been operating various branch stores in Manhattan and Brooklyn, has now formed a corporation to be known as E. B. Meyrowitz, Incorporated. His active interest in the business remains the same as in the past, and as president of the new organization he retains personal supervision and control of all its affairs.

Hands vs. Head.

To learn how to do things efficiently as well as to say things correctly, is an important part of nature study that should not be overlooked. The active outdoor boy or girl may be interested in reading a story of nature, in dreaming or exclaiming over the objects of some aspect of nature, or indeed in singing a song about nature, but to enlist the actions of the child is far better than any of these. We all like to do things and there is a joy in doing, but the joy is greater if we have convenient and efficient tools. The best set of tools and the best working bench at a moderate price that I have seen, are unquestionably those made by Hammacher, Schlemmer & Company, New York City. Turn to their advertisement on the last cover page of this magazine, and note that attractive bench. If your boy's management is a problem for you, get him this entire outfit and you will have no more trouble. And, by the way, the entire equipment is so attractive, neat and tasty that the girl too will enjoy it. A girl likes to saw, pound, hammer and drive nails, if she is a wide-awake girl. She, just as well as the boy, likes to make a music rack, a little settee, a bit

of doll furniture or, more especially along our lines, a bird house or a cage for a pet. This set of tools and the bench are not only a good commercial enterprise on the part of the company selling them, but they are really doing good work throughout the land in the hands of active youth, teachers and lovers of outdoors, in increasing a natural interest in doing things. Write to the company today for a catalogue, and refer to *THE GUIDE TO NATURE*. You will be interested in the catalogue for it contains valuable information.

Sound (Long Island Sound) Beach.

We are not a Beach in a direction from somewhere—south, north, east or west, nor from any of the other twenty-eight points of the compass. We are the thing itself, *HERE*—a Beach on Long Island *SOUND*.

Please remember that it takes two words to indicate our location, post office, railroad station, and express office, Sound Beach; don't forget the Sound. Even Shakespeare must have anticipated the trouble. Didn't he exclaim, "'Sound' them, it doth become the mouth as well." Right you are Wm. S.—It becomes the mouth and the letter and the express package much better than Beach only. Prithee, Shakespeare, you are right. "*SOUND*" them, and prefix the Sound to our address.

Omitted Credit of Photograph.

The photograph from which the illustration on page 299, of the January number of *THE GUIDE TO NATURE*, was made, was taken by Stierle, the photographer, Marquette, Michigan, and is copyrighted by him.

LITERARY AND BIOGRAPHICAL

Up and Down The Brooks. By Mary E. Bamford. Boston: Houghton, Mifflin and Company.

This book was published twenty-two years ago and the material for it was obtained in California. Nevertheless it is of eastern and present-time interest. The observations are good and the comments regarding the interests of nature are charming and original. We cordially recommend the book for pleasant reading especially by our young people.

The Home-Life of The Osprey. By Clinton G. Abbott, B. A. With Thirty-Two Mounted Plates. London: Witherby & Company, 326 High Holborn, W. C.

This is a very interesting and well-illustrated monograph on the osprey. The text is well-written and closely holds the attention. The photographs, by Mr. Howard H. Cleaves, are, many of them, of remarkable excellence, and taking it all from cover to cover it is a most fascinating book not only to the professional ornithologist but to the one who has only an amateur's interest in birds. We cordially recommend it to our readers. It can be obtained post free at Brentano's, 5th Avenue, and 27th Street, New York City. Price, \$2.00.

Farmers of Forty Centuries. By F. H. King, D. Sc. Madison, Wisconsin: Mrs. F. H. King.

This quotation from the preface by Dr. L. H. Bailey well expresses the purport and scope of the book:

"We in North America are wont to think that we may instruct all the world in agriculture, because our agricultural wealth is great and our exports to less favored peoples have been heavy; but this wealth is great because our soil is fertile and new, and in large acreage for every person. We have really only begun to farm well. The first condition of farming is to maintain fertility. This condition the oriental peoples have met, and they have solved it in their way. We may never adopt particular methods, but we can profit vastly by their experiences. With the increase of personal wants in recent time, the newer countries may never reach such density of population as have Japan and China; but we must nevertheless learn the first lesson in the conservation of natural resources, which are the resources of the land. This is the message that Professor King brought home from the East."

Professor King was called suddenly to the endless journey and his travel here was left incomplete. He has bequeathed us a new piece of literature, to add to his standard writings on soils and on the applications of physics and devices to agriculture.

Life in The Open. By Charles Frederick Holder. New York: G. P. Putnam's Sons.

Mr. Holder is a resident of the country of which he writes, and has ridden, driven, sailed, tramped, fished, and shot over every foot of the forest and sea, plain and mountain, which he describes so picturesquely and with such keen delight. Mr. Holder has written this book with zest, and the reader finds himself perusing the volume with a corresponding sensation. His book is a chronicle of sporting experiences that carries along with it a good deal of exciting narrative and a considerable amount of interesting information in regard to social life, as well as the flora and fauna of the country he loves so well.

Applied Biology. By Maurice A. Bigelow, Ph. D. New York City: The Macmillan Company.

Some of us who delve in biology regret the economical or utilitarian turn that progress in the affairs of nature study is taking, although it may not be well to neglect entirely the practical while we consider the theoretical and the inspirational. This book very happily combines these phases. The author is an enthusiastic and thoroughly technical naturalist, as well as a thoroughly trained teacher of biology. He is also a practical business man, with more than the ordinary amount of good common sense to keep his enthusiasm within effective lines. He has combined these qualifications in the production of a book, "Applied Biology," that not only details practical application of the subject, but enthusiastically tells of the attractions of life studies.

The Land We Live In. By Overton W. Price. With a foreword by Gifford Pinchot. Boston, Massachusetts: Small, Maynard and Company.

Here is a book on conservation that is not only instructive and imbued with the right economic spirit, but is also highly entertaining. The text is well written, and the author has selected just the topics to capture the reader's attention and hold it to the end. The illustrations are striking and have the right human interest, the frontispiece, "The Moose Call," being a fine bit of photographic art. The mechanical part of the book is all that can be desired. The paper is good and the text and illustrations are well printed. We have so long heard conservation exploited from the mercenary and profitable view point, with warnings about our destructive proclivities, that it is indeed refreshing to pick up a book on this subject that is sane and practical and that in addition entertains the reader and enlists his sympathy.

Bird Note Book. Devised and published by Richard H. Gerberding, Thiel College, Greenville, Pennsylvania.

This is a convenient notebook for use in the identification of wild birds as seen in their haunts. The arrangement for field notes is especially ingenious and efficient.

The Story of The Soil. By Cyril G. Hopkins. Boston: Richard G. Badger, The Gorham Press.

Presumably the story form in which the characteristics of needs of the soil are told will appeal to some more strongly than would a matter-of-fact statement regarding the scientific treatment of the soil.

The Story of the Past. By Charles H. Sternberg. Boston: Sherman, French & Company.

Mr. Sternberg has arranged in rhymes of four lines to a stanza an interesting story of his searches for fossils. The book also contains several other poems mostly of a religious nature. Mr. Sternberg is a devoted worker in his favorite realm of science.

An Artist at The Zoo. By Harry B. Bradford. Philadelphia: The Westminster Press.

This is an entertaining and instructive nature study book. The author and illustrator is skilled in animal portraiture and at great expense of time and patience has produced from specimens at the Washington Zoological Park a very valuable book.

The American Annual of Photography for 1912. New York: George Murphy, Inc. Price: paper, 75 cents; cloth, \$1.25; postage extra.

This volume containing more than fifty interesting papers and over two hundred fine illustrations, is full of practical information and beautiful pictures. There are thirty-two plates in color. Circulars or particulars may be obtained from the sales agents. We recommend this book to every camerist.

The Wilderness of The Upper Yukon. By Charles Sheldon. New York: Charles Scribner's Sons.

This book is an interesting record of field experiences while engaged in studying the color variations of the wild sheep of Yukon territory. It contains valuable data regarding a previously unexplored country. The author informs us as follows:

"In the North, wild sheep dwell exclusively on high mountains, above timber-line, usually well back within the ranges. Nearly all of the mountains on which I hunted, with the exception of Plateau Mountain and those near Watson River, were untrodden by the foot of white man or Indian. The wilderness was primeval, the sheep practically undisturbed, the other game animals seldom hunted. It was not possible to find guides, for there were none. It was necessary not only to search out a route to the mountains, but also to find the ranges occupied by sheep."



This map shows the natural distribution of the White Pine. It is from Hough's *HANDBOOK OF TREES*. The book also contains maps showing distributions of the other trees. In addition it contains photographic illustrations of the fresh leaves, fruits, barks and winter branchlets with the distinctness of reality. With it one entirely unfamiliar with botany can readily identify the trees and learn about them. Price \$6. Expressage prepaid. Sample pages sent on request.

"There is nothing but praise for the work as a whole."—*THE NATION*.

"Indispensable to students of trees."—*BOTANICAL GAZETTE*.

"A book of utmost value."—*COLLIER'S WEEKLY*.

"Extraordinarily thorough and attractive."—*NEW YORK TIMES*.

"Extremely useful. Deserves a place in the library of every tree-lover."—*THE DIAL*.

"No other book that has been made—and it is safe to say that will be made—can take the place of this masterly production. No library, public or private is complete without it. When you see it you will wonder that it is so inexpensive."—*JOURNAL OF EDUCATION*.

Hough's *AMERICAN WOODS* is a companion work to the above. It is illustrated by actual specimens, showing transverse, radial and tangential views of the grain. They are marvels of beauty and interest. The work appeals strongly to all who have to do with woods and to nature-students generally. Price \$5, per vol. Sample illustrative specimens sent on request.

Many testimonials might be given, as it is looked upon as standard the world over, but we will mention but one—the highest possible, viz.: Its author has been awarded the special Elliott Cresson gold medal (by the Franklin Institute of Phila.) on account of its production.

Our *Mounts of Woods for Stereopticon* are invaluable for illustration with lantern to an audience, and our *Mounts of Woods for the Microscope* are indispensable in the study of woods with the microscope.

Catalogue and further information sent on request.

ROMEYN B. HOUGH COMPANY

LOWVILLE, N. Y

THE GUIDE TO NATURE

Vol. IV

MARCH, 1912

Number 11



IN THE LAST PART OF MARCH: WAITING FOR SPRING.
Photograph by Harry F. Blanchard, South Glens Falls, New York

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia; Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, under Act of March 3, 1879



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THE BOOK OF NATURE BEGAN THIS YEAR (MARCH 21st) WITH A WHITE PAGE.
Photograph by Nathan R. Graves, Rochester, New York.





TERRACES OF WHITE UNDER THE BARE TWIGS.
Photograph by Dwight L. Boyden, Greenwich, Connecticut.



THE CAMERA A TEST OF NATURE STUDY.

To secure best results the camerist must see things correctly and to best advantage. To such an extent as he does not do this, the portrayal of nature is a failure.

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

MARCH 1912

Number 11

THE CAMERA



It Depends Wholly on You.

I recently had the joy of examining as fine a lot of photographs of natural objects as I have ever seen. They are the work of Mr. Dwight L. Boyden of Greenwich, Connecticut. They are of remarkable excellence. He has kindly given this magazine permission to publish a few of them. These are shown in this number. It was my first meeting with Mr. Boyden. I at once was elated, feeling sure that with such an expert and authority I had discovered a storehouse of photographic treasures and a university of photographic information. He seemed perfectly willing to lend the photographs and to show a series of cameras of all sorts and sizes. Of course I sought to prove my pet theories about the anastigmat, but to be perfectly frank with the reader, he upset them all. He says, "An expensive outfit is not necessary." He also says, "No one can tell you how to do this."

At first I was disappointed. Here is an authority with no dogmatic state-



IN TWO OPPOSITE DIRECTIONS IN GREENWICH'S ICY WATERS.

Photograph by Dwight L. Boyden, Greenwich, Conn.

ments, no claims, no arguments. He says, "It is in you or it isn't—that is all."



A CAMERA STUDY OF GIGANTIC TRACKS—OF SNOWSHOES.

Photograph by Dwight L. Boyden, Greenwich, Connecticut.

Perhaps he is right. Perhaps this is the secret of all our past disputes and our varying points of view. Perhaps each one lives alone in the world of

photography. Perhaps he should come into the open only to compare and to admire—not to criticise nor to instruct, not to convince nor to reform.



AND ALL ALONE HE WENT FOLLOWING WHEREVER THE PATH WOULD LEAD HIM.
O THE JOY OF SUCH A LEADER!

Photograph by Dwight L. Boyden, Greenwich, Connecticut.

Is he right? Read carefully what he says in the following note, then shoulder your camera and go afield.

No one can see things for you, nor enter into your life and live it for you. You must live the photographic life alone, like the other.

Personality in Photography.

BY DWIGHT L. BOYDEN, GREENWICH, CONNECTICUT.

The camera has been likened to the eye. The comparison is good, but is not the camera a little better than the eye since it perpetuates the things that



SHADOWS—ONLY SHADOWS OF TREES AND SILENCE—ON THE UNTRODDEN SNOW.
Photograph by Dwight L. Boyden, Greenwich, Connecticut.

our eyes see, and preserves them for future reference?

Back of the eye is our mind to which the impression is conveyed, but over which the eye has no control. The lens makes a similar impression on the

plate, and it is for you to decide what each of these impressions shall be like. Make your lens convey to the plate the impression that the mind has received through the eye, and you have reached the root of pictorial photography

No one can tell you how to do this. You must work it out for yourself, and learn to subordinate all detail that is not necessary to the recording of the impression that the mind has received.

An expensive outfit is not necessary, but a trained mind is.

A Winter Bouquet of Asters.

The winter flora in many respects is not less beautiful than that of the



A WINTER STUDY OF HEAD OF ASTER.

warmer weather. Asters, golden-rod and hawkweeds seem more attractive when tipped by their fluffy pappus than when their rays are spread to the sun. Is there anything more delightful during a walk in late November or December or even later, than to find in some secluded corner a row of the short stemmed yet picturesque white asters? These hold their seeding heads until far into the cold weather and until the blustering winds scatter them far and wide over the surrounding fields.

Each one of these heads is a miracle in itself. The lover of nature will find here a wonderful revelation of beauty and of ingenious arrangement. Botanists tell us that this white wood aster (*Aster divaricatus*) has pappus bristles that are slender and numerous and that the plants may be found in woodlands, in thickets and by the roadside from August until October. But the botanists are only partly right because



FALLING OFF AND FLOATING AWAY.

the pappus bristles in their delicious profusion may be found even in mid-



AS WE WERE CARRIED BY WINTRY WINDS.



winter and well merit careful examination with a pocket microscope. In some secluded corner not far from where the clump is growing you will find among the leaves a profusion of these seeds with their balloon-like appendage, all of which is indeed extremely attractive. Let us not think that our botany must end with the autumn and that life needs any pass time when there is so much to enjoy even in the fields of midwinter. Longing for flowers to come? Then study and dwell on those of the past.

Omitted Credit.

The frontispiece to the February number of *THE GUIDE TO NATURE*—a view of the AA Home—was from a photograph kindly contributed to Arcadia by Mr. J. Edw. Brown of Stamford, who also took the photograph of the Lockwood & Palmer building, an illustration of which was used in their advertisement in the same number. Mr. Brown is one of the most skillful commercial photographers that it has been my privilege to know. He uses high grade lenses and cameras and puts skilled and enthusiastic heart service and head work back of them.





THE PISTILLATE AMENTS (OR CONES) OF THE WHITE BIRCH.

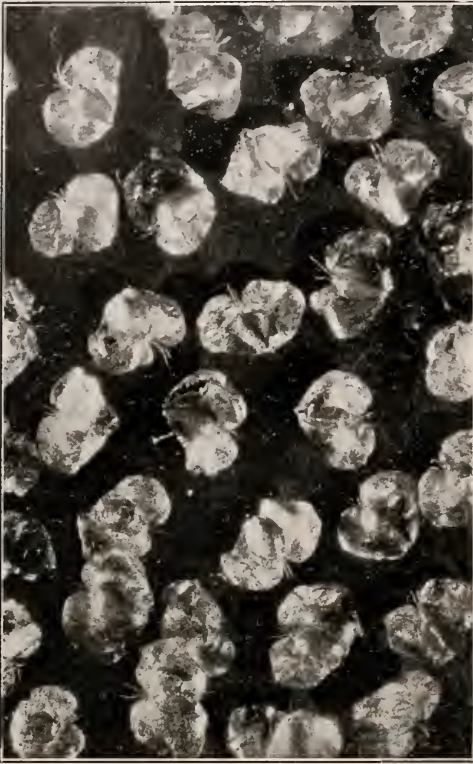
The White Birch Birds.

A light snow, a freezing rain, and a strong breeze. The snow crust was alive with innumerable little "birds," evidently of two kinds. One, the

smaller, had in appearance the suggestion, perhaps, of a butterfly rather than of a bird; the larger was conspicuous in its resemblance to a snow-bird. Pausing to examine them, I found



THE SCALES WITHIN THESE CONES SUGGEST FLYING BIRDS.



THE WINGED SEEDS ALSO SUGGEST BIRDS
OR BUTTERFLIES.



A BROKEN AMENT TO SHOW HOW SCALES
AND SEEDS ARE PACKED.

that the smaller were the seeds of the white birch, and the larger the scales from between the seeds. Nothing that

I have seen recently has given me more pleasure than these catkins in which the seeds are placed so carefully among



A STUDY OF YOUNG FLICKERS.
Photograph by Burt Stone, Harrison, Arkansas.

Bird Pictures.

BY BURT STONE, HARRISON, ARKANSAS.

To get good pictures of young birds it is necessary that you be on hand at the proper time and place, just at the time when the fledglings are learning to fly. They are then tame and somewhat timid, so they may be posed on a limb or a log in a natural way. A little careful handling begets confidence, and an assistant is desirable to keep them in place. Many charming pictures are obtainable in this way, with no harm to the birds.

taneous exposures always, but be careful to give plenty of exposure, enough for the shadows. Usually an exposure that would make a good picture with bare ground will be good for snowy ground. About one-twenty-fifth or one-fiftieth of a second, stop eight to sixteen, is suggested. Developer should not be too strong as it is apt to fog the plate. Shutter speeds vary and are seldom correct, so good judgment is necessary. Do not forget the shadows which are needed for good pictures. Snow that has slightly melted or has



FAST HELD IN THE ICY GRIP OF WINTER.

Photograph by Burt Stone, Harrison, Arkansas.

Snow Photographs.

BY BURT STONE, HARRISON, ARKANSAS.

I find that I get the best results with snow pictures by taking them when the sun is shining brightly, but not too high in the sky, say about nine o'clock A. M., or three P. M., of the average winter day. "Snap shots" or instan-

been tramped on is easier to photograph than fresh snow, as there is more contrast, and contrast is needed for good results. Beautiful pictures of the deep snow are easy to get, and I am sure that any reader who goes about the work intelligently will be delighted with the result.

Long Focus and Short Focus: Theoretical vs. Practical.

Photographic instruction books tell the beginner and all who read them, "The shorter the focus the greater the depth of focus." That may be correct in theory. How about it in phases of practice? Let us see.

According to the experience of commercial photographers and of most naturalists, the unqualified assertion is not wholly true, because actual practice proves that it is partly erroneous. In actual practice I go to the fields with my camera and a lens having a combined focal length of seven and one-half inches, the front section being sixteen and one-half inches and the back combination eleven and three-sixteenths. I discover a shrub beautifully in bloom. I want to fill the plate with it, and yet I do not want the front nor the back to be out of focus, nor do I want the picture to suggest motion as it may do if the wind is blowing. I make a time exposure. I set the camera near enough to the shrub to fill the plate and I get depth by stopping down the lens, but I then have everything out of perspective. The branches near by are too big, and the distant ones are too little. With me is a friend who is just beginning to use the camera. I say to him, "Take off the back combination and use the sixteen and one-half front lens. Then by going back far enough you can fill the plate and have good depth. But he makes a significant gesture, and tells me that his instruction books says that long focus will not give him depth of focus. And I say, "Do what you please, and take what follows. You are not spoiling my plates."

We tramp onward and find a bird's nest on the ground. We tilt the camera to get the correct focus on the nest, but both the foreground and the background are out of focus. "How can I remedy it?" he inquires. "I must stop down to get all this in focus," while I remark, "You can do that, but I like better to use the back combination of the lens, longer focus, get back a little farther and obtain greater depth." Again he murmurs something about his instruction book, but I pay no heed

to him. I do not intend to have any factor enter into the discussion except that of actual experience.

On our return we pass an apple tree in full bloom, and are delighted by the owner's permission to take home a big branch for photographic purposes. We carry it indoors where there is a good skylight with no air currents. Here we can use a short focus by stopping down the lens to get depth. But on the ground glass the blossoms on the near side of the bough are at least twice the size of those on the far side, and that would make a misleading photographic record of an interesting natural specimen. Then we take a long focus lens—as long as we can get, and, to obtain REAL depth, depth that shall not be a distortion nor a misrepresentation, we retire as far as possible from the specimen, and make the exposure. It shows the blossoms on both sides in almost the correct proportion. But the books tell us that long focus will not give depth. Yet experience says that the books are wrong, in making an unqualified assertion without explaining the more distant point of view of the longer focus.

I remember how years ago I was astonished when I went into an artist's studio and he told me that he had a lens of some eighteen or twenty inches focus. I asked what use he had for such a lens. He said, "With it I can fill the plate without distortion and with good depth in taking a portrait." "Do you mean to say," I asked, "that if you want to get depth from the tip of the nose to the back of the head you use a long focus? I thought, and the books tell me, that I must use a short focus for depth."

Is there any photographer in existence who, when he desires to use his lens wide open or nearly so, would take a short focus to get depth in photographing a deep subject? If there is, let us know how he does it, and if there is not, let us understand why our books persist in stating what is the antipode of all experience.

Some one may say, "Your longer focus gets greater depth because you put the camera farther away and have

your plate filled at a greater distance." I don't care how you do it and I don't care how many of these fanciful factors you use to explain it, the fact remains that experience teaches, "The longer the focus the greater the depth," while the books teach the converse. Suppose I wish to fill a 5 x 7 plate with the picture of a house taken at its greatest depth—that is, diagonally. If I follow the instructions of the books, I put on the camera the shortest focus lens, but every commercial photographer knows that that will distort the picture, and that if the plate is to be filled the lens must be stopped down very much and as a consequence foreground or background or both will be out of focus. Every one with convertible lenses, and with a battery of different lenses of different foci, knows that in actual experience he would put on his long focus and get as far away from that house as the situation would permit. The long focus would bring the house up to him, and give a depth that would not be a distortion as would be the depth obtained by a near view, with lens stopped down.

Of course, I understand that if one is in a room and wishes to get as wide a field as possible with correct depth one must use a small aperture and a short focus. But suppose instead of filling the plate with the entire room, he wants to fill the plate with the dining room table. Would any one in his senses use a short focus to get the front and back of that table into focus at the same time? Would not any one with common sense use just as long a focus as possible, and do it from the part of the room most distant from the table? In comparing depth of focus with length of focus, the whole question must be taken into consideration. *One must include the size of the field to be put on the plate.* The trouble seems to come about in an unfair comparison. We think of a large field for the short focus and a smaller field for the long focus. A comparison of depth is unfair, because the long focus in many cases cannot do it at all, as, for example in photographing the interior of a room with a wide angle lens of short

focus there is great depth. It is unfair to compare depth of a long focus in this example, because the long focus cannot get that field of the room. *The comparison should be made on a subject within the scope of both lenses,* and the basis should be the SAME SIZED IMAGE ON THE GROUND GLASS. If such a comparison is made the long focus has the greater depth, and far better perspective, without distortion of near parts. My advice to the camerist is to USE AS LONG FOCUS AS POSSIBLE for greatest depth and perspective, provided the longer focus will take in the field desired. Of course, if the longer focus will not take in the desired field then there is no comparison. Most lenses are divisible—even the cheaper rectilinear are so. Where speed is not essential, and the longer focus will take in the desired field, the best depth is obtained by using the half lens. There are many cases in photography where the half lens is better than the whole. Yet I find many amateurs with divisible lenses and plenty of bellows who do not realize this advantage of better depth and perspective of the half lens with double length of focus.

If you are to photograph a house, tree or stone wall, anything not requiring speed, get away from it and bring it up to you by the half lens.

Get the long focus habit—where it will apply.

If the beginner is puzzled by either the foregoing or the explanation in the handbooks, if any beginner cannot understand, he may readily demonstrate the incorrectness of the general unqualified statement that short focus gives the greatest depth, by holding up his forefingers about six inches from each other and in line with the eye. Hold the two hands so that the nearest finger is from eight to ten inches from the eye. Now try to focus your eyes for depth. Look first at the near finger. The farther finger is in a haze. Look then at the farther finger, and the near finger is in a haze. Now hold the two fingers at the same distance apart and as far away as you can reach. Is it not evident, as you look at one fin-

ger and then at the other, that here the the foci of your eyes on the two fingers are nearer together and the straining of your eyes from one to the other is far less. If some one else will hold up two fingers say six inches apart and ten feet away from you, both fingers will be in focus without any change. Thus there has been secured perfect depth by a long focus, but according to the instruction books, the nearer the fingers are to the eyes, the better will both be seen at the same time, a statement that plainly is a fallacy.

Proof Positive of Anastigmat Value.

To the Editor: Llano, Texas.

About the enclosed picture being "a good argument along the line of our



THE ANASTIGMAT SUSPENDED THE BABY
IN MID-AIR WITHOUT SUPPORT OR
MOTION.

B. & L. Tessar Ic lens. 1-700 sec.

advocating high grade lenses" is not really an argument" but an illustrated fact.

It is these "facts" that we wish to draw the attention. Once this is accomplished the anastigmats are fully competent of arguing the matter.

The need of definite printed information in our magazines and the misplacement of advertisements that are primarily to blame. Excepting the photographic magazines, lenses are seldom advertised.

"Convertible anastigmats" have about as much meaning to the average person as a "Convertible bond—such, 'U. S. refunding threes coupon'"—does to a school child.

I would suggest when printing an illustration, the name and make of lens be given below. This will give some free advertising but persons asking for information of that lens would certainly mention where the picture was illustrated and eventually the publisher would receive their advertising.

Yours very truly,

LESLIE L. LONG.

Photographic Studies of a Water Supply.

Stamford, Connecticut.

To the Editor:

The water supply of a town should interest everybody since the public health is so intimately associated with potable water.

I think that no other town in Connecticut has a better supply, either in quality or quantity, than Stamford. The analysis of the Stamford water is as good as any that I have ever seen and a great deal better than many. Therefore, I think everybody should be acquainted with the splendid plant that we have, and to help a little bit, I am sending you a few pictures taken around the lake of The Stamford Water Company.

No. 1 was taken from under the cement bridge which spans the ravine at the outlet of the lake.

No. 2 is a view of the ravine looking away from the lake.

No. 3 was taken from the top of the dam, on the west side, and No. 4 is a



NO. 1. STAMFORD WATER SUPPLY AS VIEWED FROM UNDER THE CEMENT BRIDGE WHICH SPANS THE RAVINE AT THE OUTLET OF THE LAKE.

photograph of the road and bridge over the upper part of the lake. These pictures show only a very small portion of the lake and its surroundings, but if they arouse the curiosity of some of our good people and induce them to go to see for themselves the beauty that exists all about that sec-

tion of the country, they will have done all I want them to do. I am sure that anybody with any love for nature will feel amply repaid for a day spent in rambling about the lake and its environs.

Yours truly,
A. L. EMBREE.



NO. 2. A VIEW OF THE RAVINE.



NO. 3. FROM THE TOP OF THE DAM.



NO. 4. THE ROAD AND THE BRIDGE AT THE UPPER END OF THE LAKE.

The Japanese Love of Nature.

The Japanese love nature, and as a consequence have studied nature as probably no other people of the world have studied it. Even the common people travel far to see natural scenery, and generally have trained themselves to a keen appreciation of all that is beautiful in nature. This is shown even in their method of floral arrangement. Western people endeavor to emphasize the beauty of flowers by arranging

them in a vase by themselves without either leaves or branches, while the Japanese invariably add the branches and leaves, arranging them in such a natural way as to make them appear most naturally beautiful from their artistic standpoint. It is not the mere flowers alone, but the ideas they express; and the Japanese wish to show their conception of what is beautiful in the form and position of flowers and leaves and branches together.—“The Oriental Review,” New York City.

THE HEAVENS FOR APRIL

The Heavens for April.

BY PROF. ERIC DOOLITTLE OF THE UNIVERSITY OF PENNSYLVANIA.

Peculiar eclipse April 17th. Mercury becomes a morning star April 15th. Many shooting stars April 20-21-22.

This, the second spring month of

fortunately, neither of these eclipses can be seen to advantage from any part of the United States, and the first is, in fact, wholly invisible to us.

therefore, not become entirely darkened.

THE SOLAR ECLIPSE OF APRIL 17.

The shadow which the moon casts



Figure 1.—The Constellations at 9 P. M., April 1. (If facing south, hold the map upright; if facing east, hold east below; if facing west, hold west below; if facing north, hold the map inverted.)

the present year, is ushered in by the always interesting phenomenon of an eclipse of the moon, and two weeks later our satellite will pass between the earth and the sun and its shadow, sweeping over our turning earth, will cause an eclipse of the sun. But, un-

in space is of the form of a long cone, but it is very much shorter than the shadow cast by the earth. The distance from the moon's surface to the extreme apex of its shadow is a very little less than the average distance which separates the moon from the

earth. It therefore follows that when the moon passes between the earth and the sun and its shadow extends directly toward us that it is generally not quite long enough to reach the earth. When the moon happens to be a little nearer to us than usual, however, almost the extreme tip of the shadow may fall upon the earth and so form a little round, dark area, which is never more than 175 miles across. This sweeps over the earth's surface, tracing a narrow strip across the lands and seas, and all observers inside this strip see the sun completely hidden.

The eclipse of April 17 is a very peculiar one. The produced shadow cone first strikes the earth at A, Figure 3, at 5 hours 1 minute, A. M., and

within the area MADN, north of this path, will see the moon hide the lower edge of the sun from view; outside of the area MRN the eclipse will be wholly invisible.

Residents of our country who live along and to the east of the line KL, which crosses Eastern New York and Long Island, will see the eclipse begin just as the sun is rising; those between the lines KL and ME will see the sun rise partially eclipsed, while to those west of the line ME no part of the eclipse will be visible. By the use of a darkened glass the passage of the moon over the lower edge of the sun may be clearly witnessed, but from no place in the United States will a very large part of the sun's disc be hidden.

THE PLANETS IN APRIL.

The little planet Mercury passes to the west of the sun and becomes a morning star on April 15 at 7 A. M., but it will not reach its greatest distance from the sun and so become easily visible until the middle of May. On the morning of April 28 this bright little world will be found so near the far more brilliant Venus that the two objects will look like a double star in the early morning dawn. The observer has perhaps noticed how brightly the latter planet has been shining in the morning sky and how it also has been drawing so rapidly near to the sun that as the days go by it is seen with ever-increasing difficulty. On April 1 it rises 1 hour 10 minutes before sunrise, while by April 30 this time is shortened to only 40 minutes. On April 28 it may be detected in the dawn, a little way up from the east point of the horizon, for a short while before sunrise, and on this date the planet Mercury will be seen lying to the left of Venus at a distance away from it only one-third as great as the distance across the moon.

The planet Mars will during the month move from the middle of the Milky Way to the center of the constellation of the Twins. In a small telescope this now appears but little more than one-half full, so that it resembles the moon when about two

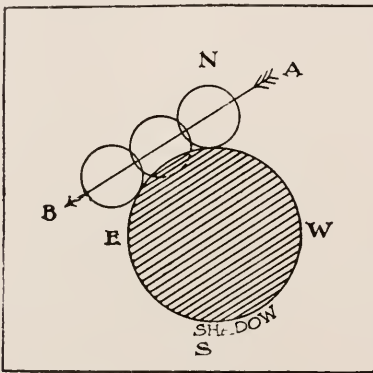


Figure 2.—Passage of the moon through the earth's shadow on April 1st.

sweeps over the Atlantic ocean along the line ABCD. One hour and 18 minutes after the beginning it has reached the point B, by which time the moon has drawn enough nearer to the earth's surface so that the shadow cone itself actually reaches the earth, and this continues while the shadow is moving from B to C. Observers on the path between B and C will therefore see a total eclipse; that is, they will see the sun entirely hidden, but when the point C is passed the distance from the earth to the moon again increases and the shadow no longer reaches the earth.

By all observers along the narrow path ABCD the center of the moon will be seen to move exactly across the center of the sun. Observers anywhere

days past its first quarter. The large polar cap may still be readily detected, but the planet is now so very far away that no other details can be well seen.

Saturn is now low in the west, and toward the close of the month will be wholly lost in the sun's rays. It will not definitely leave the evening sky, however, until May 14.

Jupiter is moving slowly westward in the constellation of the Scorpion, and though in the early morning hours it is a beautiful and conspicuous object, riding high in the southern heavens, it has not yet reached the borders of our evening chart. It is due east of the star A, Figure 1, rising at 11 o'clock on April 1 and at a few minutes past 9 o'clock on April 30. An

serving the star shower it is therefore best to select a late hour of the evening, even deferring the observation until after midnight, if possible.

The greatest number of shooting stars will be seen on the evenings of April 20, 21 and 22, and this year we have an unusually favorable opportunity for observing them, since the moon on these dates is nearly new. If, late in the evening, the observer will turn to the constellation Lyra, he will see every few minutes a bluish, very swiftly moving star dart outward from near the point S, Figure 1, and move in any direction across the sky, while it may be that at times two or three shooting stars will suddenly appear at once. The shower will continue all

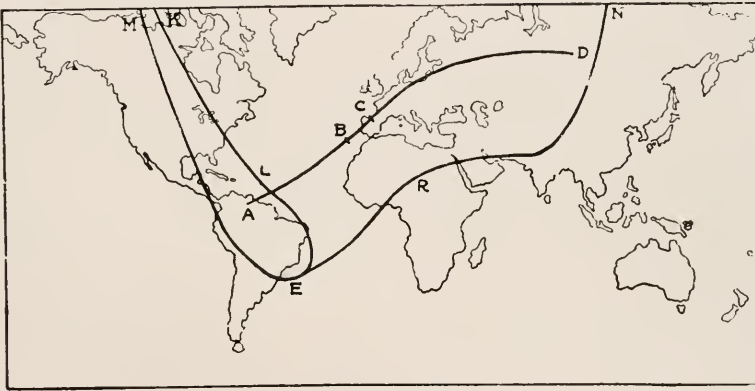


Figure 3.—Showing the regions within which the solar eclipse of April 17 may be seen.

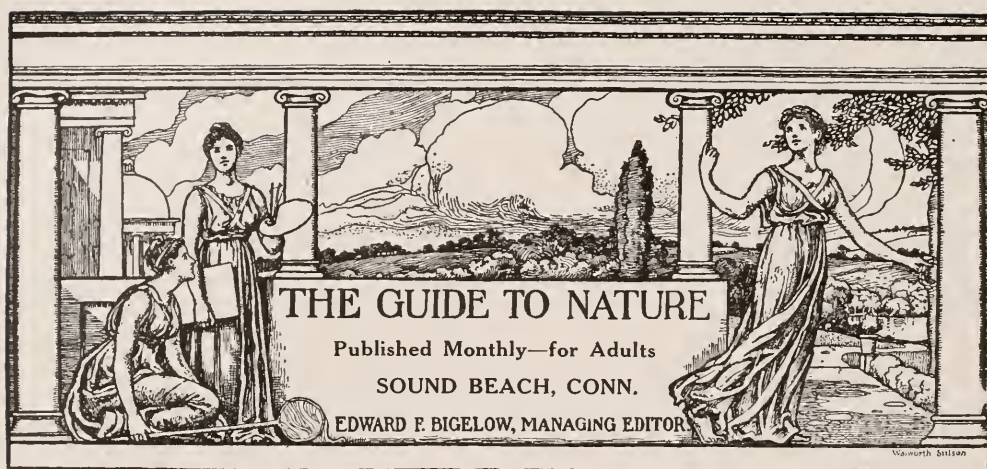
interesting eclipse of its third moon may be observed on the morning of April 29, the moon disappearing at 1 hour 58 minutes 22 seconds, A. M. (Eastern standard time), and emerging from the shadow 2 hours 10 minutes 39 seconds later.

THE APRIL SHOOTING STARS.

This is the month when there occurs the bright shower of shooting stars known as the Lyrids, this name being given to them because they are seen to dart outward in all directions from the constellation of Lyra, or the Harp. This beautiful constellation, with its very brilliant, blue star Vega, may be seen just rising in the northeast in the early evenings of April, while throughout the latter half of the night it is high in the heavens. In ob-

serving the star shower it is therefore best to select a late hour of the evening, even deferring the observation until after midnight, if possible.

The stars of this or of any shower are a great stream of meteoric particles moving about our sun, through which the earth plows once each year. Each swiftly moving particle as it collides with our earth is burnt up by the friction of its motion through our protecting air and the burning particle is what we see as a shooting star. That all the stars of any shower appear to move outward from one little area in the sky is merely the effect of perspective; the area is the vanishing point of the parallel paths in which the particles move. The present shower is the remains of the first comet of 1861.



You Must Be A Missionary or A "Has Been."

I recently attended a banquet given by the men of St. John's Episcopal Church, of Stamford, Connecticut where the postprandial speeches were on missionary topics. Almost the opening sentence by the presiding rector told us that the only real church is the missionary church. This thought was the prevailing thought in all the subsequent remarks.

But is this true only of the church? To keep one's self, the focus must be beyond and out of one's self. The moment the novice in the study of music ceases to think that he is to acquire skill so that he may give pleasure to others, at that moment the zeal of study is lessened. We learn most effectively by teaching and by the desire to teach. Compare the difference in spirit of the boy who studies Latin yet hopes to be a business man, and the one whose whole ambition is to be a professor of Latin. The best and only true incentive to happiness in life is an effort to make ourselves useful to others.

I recently read Stanton Davis Kirkham's book on outdoor philosophy, in which he enthusiastically tells of the charm of going alone to the woods. His fancy seems to dwell wholly on the solitary man, and yet it is evident through all his eulogy of solitude in the realms of nature, that he has it in mind

to present to others the attractiveness of this solitude. His point seems to be that since he loves solitude, every one else should emulate his example. Some three years ago I was a guest of a group of enthusiastic students at a certain public aquarium. At the sumptuous dinner to which they invited me, I was, for the most part, a listener. Judging from the enthusiasm of my hosts, it would not be long before they would aquariumize the entire world. To have an aquarium with fish in it seemed to be the one thing in life worth living for. I invited these good friends of mine to use *THE GUIDE TO NATURE*, and the articles came to this office in such profusion that the enthusiastic writers became impatient because I could not get their essays into our pages rapidly enough. In a short time there were some changed plans. In a short time the greatest enthusiast of all turned his attention largely to other things, and decided to give up his missionary work for the aquarium, and to devote his spare time to his own interests along that line. Time passed, and I wrote to one of the associates at that banquet to ask regarding this man's enthusiasm. The reply was, "He is not at all interested in the subject at present, and I doubt whether you can get an answer." At the same time I wrote directly to the man himself. He returned the letter with the statement penned at the bottom that he is

not interested in the subject.

The moral is evident. The moment you cease to be a missionary in your profession or in your religion, you become a derelict, and the only proper treatment for you is the treatment that the Government administers to the derelicts that infest the marine highways; it blows them up. Many a time in my quarter of a century of nature journalism, I have seen some one who thought he had become so proficient that he wanted to do profound research work for his own benefit, and therefore ceased to take time to help others. That indicates the beginning of dry rot and the victim soon dies, or becomes an obstruction to navigation.

I know a young man who, while he was in the high school, was vexed because he could not get all of his associates interested in nature. He travelled far and near, he searched diligently, he showed his friends and neighbors his collections, he occasionally indulged in the ecstasies of a new discovery, and then he settled down to what he regarded as serious scientific work. He had become a scientist and not a popularizer of science. And now, alas, his scientific interest and enthusiasm are rapidly waning.

The true naturalist is always glad to be a missionary when conditions serve. The only way that we can get is to give. The only way to live is to love.

Pause for a moment and, after a little introspection, decide whether you are growing into a greater life or not, or whether you are on your way to sure death or not. Some people walk about in a sprightly way, they eat, they sleep, they speak, but they died long ago and do not know it. May the Lord deliver me from ever being a derelict. "There's that door bell." "A boy would like to see you." "I will bring him in and show him my fish hatchery. It may make an ichthyologist of him, or perhaps a fisherman or a fish peddler!"

A Source of Satisfaction.

I am glad that I am a Connecticut Yankee. I am glad that I live in Connecticut. This bit of enthusiastic happiness is not belittling to the other fellow whose parents decided to start him in some other part of the United States. No more picturesque hills, valleys, ravines, waterfalls, fields, forests, can be found in all the world than in Connecticut. It seems to me the very best territory in which to live the life of a naturalist. But to apprehend and to enjoy the varying aspects of beautiful nature in various parts of the state, one must travel to those parts, and here enters another one of the joys of living in Connecticut. There is no part of the United States with better transportation facilities than those furnished by the New York, New Haven and Hartford Railroad Company. I have travelled in every part of the United States and I speak from experience. The New York, New Haven and Hartford Railroad has facilities that remind me of the bounties of nature. They are so good, they seem so perfectly natural and we are so accustomed to them that we accept them as a matter of course, and seldom even mention them. Every one that lives in Connecticut takes it for granted that we have the most beautiful state, and the best railroad facilities. We speak of the New York, New Haven and Hartford Railroad no more frequently than we mention the glories of sunrise or sunset, of clear air or beautiful trees. We enjoy them, and remain silent. But these commonplace gifts of nature are great gifts, and worthy of our enthusiastic praises. We cannot be expected to express our emotions continuously, but we take pleasure in breaking out once in a while, and in escaping from the shell of our daily routine to give expression to our feeling of gratitude for such blessings. So it is with the New York, New Haven and Hartford Railroad. Can there be found on all the earth a more democratic, sensible, commendable and serviceable railroad company? Go over some other railroad and look at the red tape and get tangled up in it. You buy a limited ticket,

The web on the leaves the spider weaves
Is like the charm hope hangs o'er men
Tho' oft she sees it torn by the breeze
She spins the bright tissue again.

which is good in only one direction. You are crowded in the station even after the train comes in. There is somebody to punch the ticket as you pass through a narrow space bordered by brass railings. The roly-poly washerwoman with her obese basket does not climb through; she crawls over or under. Delegates to the convention of fat men get special permission to go around the station. But here in Connecticut you can parade up and down on the station platform as long as you like. You can sit down or you can stand up, and when you have bought your ticket it is good not only for thirty days, but for thirty years. Indeed, I heard not long ago of the actual experience of a traveler who had a ticket more than thirty years of age that was accepted by the conductor with a matter-of-fact air as if such things were of ordinary occurrence. On some other railroads, if you asked permission to walk out of the station to get a breath of fresh air while waiting for a delayed train, the austere official would probably drop dead at your audacity.

The railroad in Connecticut does not hold a public franchise for the purpose of running a fancy, high priced hotel. Go aboard the dining car on another railroad, and if you are a hungry, hearty man, it will cost you about four dollars and fifty cents for a meal such as you could buy at any other restaurant for seventy-five cents. Here in Connecticut things are better. You are made to feel that you are the guest of the railroad. You sit down and eat all you want, as you would at home, and when you are through, you tender a dollar bill for the privileges. There is a democracy about the dining car in Connecticut that I find in no other car in the land. You are made to feel at home, and you discover that it is a joy to travel on that railroad. Most of the railroads override their privileges. They are granted a certain franchise to transport the public, not to skin them out of every dollar they have in exchange for a decent meal. I am told on good authority that the dining cars of Connecticut yield reasonable re-

turns. If they do, then the exorbitant prices on some other railroads yield unreasonable returns, and the railroad management is making more money in running a movable, fancy priced hotel in proportion to cost than it is getting for transporting the public.

But perhaps more important than all this is the fact that the New York, New Haven and Hartford Railroad is demonstrating that a railroad can be managed without a lot of foolish red tape regulations, and the transportation still be kept safe. Where in all the world will you find such an aggregation of population as between New York and Boston, in proportion to distance? If ever there was a railroad that had the slightest excuse for a lot of stiles, barred gates, punching inspectors and tickets-good-only-one-way, then it would be this railroad, because here we have so dense a population, but what do we find? Good, democratic, everyday common sense. The numerous express trains do not kill the people because they tumble off the platform, for they never tumble. One might think that the travelers on some of the railroads in this country are either children or a lot of idiots. They are lined up, and kept back and punched, and inspected, and quarantined, and after passing the inspection, they are mulcted about four times the proper price for the food that the company supplies.

The New York, New Haven and Hartford Railroad is a model for the entire country in its freedom from accidents. It is true that once or twice severe accidents have occurred but let it be noted and emphatically noted that there has never been an accident on the New York, New Haven and Hartford Railroad that was due to an absence of the foolish red tape regulations of some other railroads. This has proved conclusively that such complicated and obnoxious rules are not necessary. Is there anything more exasperating to a man with a dress suit case in each hand, and perhaps an umbrella and one or two packages, than to be jammed in a regular football crowd, and then be held up and told

to get out his pocketbook and show his ticket before he can go through the gates? Such inspection may be required at a State Prison but should not be required anywhere else.

The more frequently I recall my cause for gratitude, the more do I feel like bursting out in a pæan of gratitude, first, because my parents located me in the state of Connecticut, and second, because the course of events has made available such facilities for travelling to various parts of the state, as are furnished by the New York, New Haven and Hartford Railroad. I am proud of the state and of the railroad, and I am grateful for the many blessings that I enjoy as a Connecticutian.

Camp Idlewild Boys.

It is interesting to note the growth of the "Boy Camp Idea" during the past twenty years, or since Camp Idle-

most unheard of then, but the development has been rapid and now thousands of boys go to such camps and the number is growing with the years.

The love for birds, the interest in insect life, the knowledge of the woods, all have been developed by such experiences as boys have in this camp life.

At Camp Idlewild, emphasis has been placed upon natural history. Boys are encouraged to become familiar with the different trees, the various kinds of birds, the fish that swim in the lake, and informal talks are given from time to time. The stereopticon is used to advantage in the work.

While athletics and aquatics are made much of, good wholesome fun is manifest on all sides, yet with it all, boys are encouraged to accept the teachings on every hand that nature is waiting to give to those who are observing and willing learners. The



A SHACK IN THE WOODS.

wild was organized by Mr. John M. Dick about twenty-one years ago. At that time Mr. Dick says but few boys were interested in spending the summer months under the canvas and fewer parents were willing to trust their boys to such a life for the entire summer. Private boys camps were al-

woods, the lake, the mountains all about are a constant inspiration to enjoy to the full the living close to nature offered by the camp life.

The appeal that "shacking in the woods" makes to boys is well illustrated in the picture showing the boys cooking a supper under the leader-

ship of one of the Councilors. The boys are taught to light and care for a fire and to do the camp cooking out of doors.

thrill of new powers, and that the victims of ignorant passiveness have been stimulated by informed aspirations.

The warning against the threatened,



ONE OF THE WIGWAMS.

The tent life is also attractive and the boys soon learn that cleanliness and comforts are desirous and possible, while living in a wigwam. Altogether, a summer in camp is and will continue to be more attractive to boys and parents and there will be an increasing number of boys spending the long summer in the open camping.

Conservation of Mankind.

BY JOHN A. DIX, GOVERNOR OF THE STATE
OF NEW YORK, ALBANY, N. Y.

"ILL FARES THE LAND, TO HASTENING
ILLS A PREY,
WHERE WEALTH ACCUMULATES AND MEN
DECAY."

The American people have been listening to a warning. For a time most of them were heedless—some because of blind selfishness, others because of supposed helplessness, and still others because of uninformed indifference. To-day in every walk of life there are unmistakable evidences that even blind self-interest has seen a new light, that the masses deluded into the belief of self-impotence have felt the

or already active, decadence in the lives, liberties, and enjoyments of the people has been expressed in various forms and by a multitude of different mediums, but by none so emphatically and impressively as by the messages and messengers of the conservation of natural resources. These awakening advices have been carried in lasting letters of living fire of destroyed forests, in ineffaceable lithographs of eroded soil, in the burning books formerly found unscorched in "running brooks" which have rushed uselessly to the sea, leaving behind a dry bed of reproach and unsightliness.

The reassuring advices as to remedial and preventive action have been brought home to a distraught and despoiled people by the apostles of conservation. It seems, therefore that no synonym of conservation responds so fittingly and opportunely to the invitation of this subject's aim as salvation—a beneficent "deliverance from impending evil or destruction." Since the usual meaning of the word applies

to the spiritual rather than to the physical salvation of men, let us substitute either betterment or preservation of mankind.

Crowned with the dignity of utility and the grace of aesthetics, conservation is enthroned on the hilltops of popular understanding as the prime minister of a regal power which is to restore the wasted forests and diminishing streams, and their wild inhabitants. Preservation, however, passes through the valleys and lowlands of the people's crying needs and deprivations, carrying hope to the highest and lowliest. Conservation is the rugged son of a sweet mother whose chief concern is the salvation of men.

Without a thought of impiety, the apostle of conservation believes that the spiritual advancement of his fellow men is incidental to, and not the primary purpose of, the conservation of mankind. Even the intellectual and the social advancement of the race are not made prime factors in the conservation proposition, but, like the spiritual welfare, must in the interests of singleness of aim remain corollaries. And exalted corollaries to the splendid proposition they are, since they must be greeted as inevitable consequences of the physical and creature improvement of mortal existence and human living.

Perhaps no more painstaking, observant, sympathetic, and authoritative student of nature ever threaded the paths of the woods or meandered through the flowering meadows than Henry David Thoreau. Yet on his return from a trip with "Nature, the dear old nurse," he is found pointing a criticism at his human brothers and sisters in this fashion:

Of all phenomena my own race are the most mysterious and undiscoverable. For how many years have I striven to meet one, even on common manly ground, and have not succeeded.

Was Thoreau's a case in any material way dissimilar to that of many men and women of today who go into rhapsodies, not over conservation, but over

their own ideas of conservation?

"Reformers are like Esquimaux dogs, which must be hitched to the sledge each by a separate thong: if put in one common harness, they turn and eat each other up," declares Thomas Wentworth Higginson.

The true conservationist is not a



JOHN A. DIX, GOVERNOR OF NEW YORK.

reformer. He is a restorer. The various activities, humanitarian either in declared purpose or in latent characteristic, have accomplished much towards man's uplift, but the goal is much farther off than it should be today, and than it would be had they not been working in separate harness. Too often it appears that the uplift organizations and institutions have not only been hitched to different sledges, but also have been pulling in divergent and frequently in opposite directions. No wonder that it sometimes seems that human progress has been discouragingly slow.

The utilization of natural resources now wasted in the forests and waters will procure for the workman and the capitalist shorter hours and more

leisure for recreation in the out-of-doors.

There is extravagance and waste in human energy as lamentable and destructive as the extravagance and waste which has denuded our forests, exhausted our soil, diminished our

the stoppage of waste and extravagance in the utilizing of undeveloped resources of the nation. True conservation goes further and deeper. It means intelligent, orderly, and efficient use of all of the faculties of men as applied to the solution of national problems, and the promotion of social progress and general happiness.—*From The Survey.*



GOVERNOR DIX SAYS THIS IS "THE WAY TO REAR WELL PRESERVED OCTOGENARIANS."

hydraulic energy, and inflicted incalculable loss upon the nation. The prosperity of the state depends upon the rational conservation of the energies of its citizens as much as upon the conservation of its natural resources. In the national sense, conservation has a far larger meaning than

A Good Word for Starlings.

New York.

To the Editor:

I wish to use this opportunity, of stating a word in defence of the much-abused starling. On my place, I have a great many starlings, nesting every summer and as I read so much about the destructiveness of the starling, I took special occasion to observe these birds by the hour. I have never been able to find any fault with them whatever. When they had young in their nest, they were bringing incessantly, grasshoppers, butterflies and caterpillars and other insects to their nest, for the young. I have sat within six feet of their nests for two hours at a time, and made notations, and I have never seen them one single time, bring anything else but insects. I have a great deal of fruits on my place, cherries, raspberries, grapes and strawberries etc. Though there were hundreds of starlings on the place, I have very rarely seen a starling in the cherry trees. The robin however, I find is an extremely bad offender, so is the black-bird or crackle. The robin not only feeds on cherries, but he destroys twenty times as much as he eats. He makes vigorous onslaughts on strawberries and pulls out the young sprouts of peas and sweet-corn, row after row. Neighbors of mine told me their grapes were being destroyed by starlings. I noticed that my own grapes were apparently being attacked by some enemy and after careful watching, I decided that not birds but insects were eating the grapes. Three or four different species of wasps were incessantly at the grapes, cutting them open and destroying a great many

bunches entirely. Also, in the early morning, crows and frequently, the blackbirds made meals of the grapes, but never once, have I seen a single starling guilty of such offences. I think the starling is almost, if not equally as useful as the housewren and instead of condemning him, we ought to protect him, wherever we can.

Another proof that the starling is not a seed eating bird, I have gathered, during this winter. I have set out numerable bird tables, some entirely with seeds and grains, others with meat scrap and suet. The snowbirds, the tree sparrow, will always be gathered around the tables where grain and bread crumbs are offered, but the starling, never, without any exception, has been at any other table, but the one which contained the meat scraps and suet, the same as the chickadee, the wood-pecker, the nut-hatch and the tree-sucker, all these latter ones would only touch meat scraps and suet.

I wish you would speak a few kindly words in defence of the starling, who is certainly an indefatigable songster, who becomes very friendly, who is a natural born enemy of the English sparrow, attacking him, wherever he can and never, have I seen him attack any other bird and according to my observation, he is one of the most wonderful destroyers of insects. I wish I had more starlings on my place, than I have.

With best regards, I remain,

Sincerely yours,

JOHN C. UHRLAUB.

Woodchucks and Ground Squirrels Climb Trees.

Harrison, Arkansas.

To the Editor:

Whether it is instinct or reason that causes a woodchuck to climb a tree, I cannot say, but climb he will, as I know. On three different occasions I have seen him so behave. He is not a skillful climber, and my conclusion is that he thus acts only when away from his regular habitation. The gray ground squirrel of the prairie do the same as the woodchuck in the same

circumstances. That is, some individuals of the species will. Others, when pursued, will run right by a tree and not seem to realize that it might be a means of escape. Like the woodchuck they are awkward climbers, and cannot jump from branch to branch, or from tree to tree, as a tree squirrel can. My observation is that the striped prairie squirrel will never climb a tree. Perhaps he is not so near a relative of the tree squirrels as are the gray ones. I will leave Mr. Burroughs or any other reader of *THE GUIDE TO NATURE* to explain the reason for these things. The statements here given are from actual, personal observations made in the state of Iowa, where the squirrels are plentiful, and woodchucks reasonably numerous in wooded portions.

BURT STONE.

To Contributors:

THE GUIDE TO NATURE pays for contributions only in the satisfaction that comes to every contributor in having his best work well published for the benefit of other workers. There can be no better remuneration. Therefore your best work in this great "labor of love" is solicited.

You are invited to share in the liberal pay received by the editor and the members of the family who assist him, and that is the joy of working faithfully in a cause than which there is none better on earth. This is the pay that the editor has. Your observations described in a plain and simple way, will help the magazine and encourage its readers.

Every cent of income from *THE GUIDE TO NATURE* and from The Agassiz Association is placed on the "Received" side of the cash book. On the "Paid" side are only actual expenses—paper, printing, engraving, mailing, etc.

God made the glow worm as well as the star; the light in both is divine.—George McDonald.



Established 1875

Incorporated, Massachusetts, 1892

Incorporated, Connecticut, 1910

Encouragement.

A LETTER FROM GOVERNOR JOHN A. DIX
OF NEW YORK TO PRESIDENT BIGELOW
OF THE AGASSIZ ASSOCIATION
State of New York Executive Chamber
Albany, March 8, 1912.
Edward F. Bigelow,

President, The Agassiz Association,
Arcadia, Sound Beach, Conn.

Dear Mr. Bigelow:

I think you are accomplishing a most excellent work and deserve the sympathy and encouragement of every citizen for your efforts in elevating the standards of character in young men and young women. I doubt if there is a more important study than the study of nature—animals and wild fowl, forests and flowers—to broaden the vision, to teach sympathy and consideration for others. It inspires courage, it gives purpose and brings one's soul into a closer touch with our Maker, when one has appreciation of Nature's work, done in silence as a gift to mankind.

With expressions of my high regard and esteem, I am,

Very truly yours,
(Signed) JOHN A. DIX.

Central College Chapter, Huntington, Indiana.

Our Chapter was organized last November with eleven charter members; since then one new member was elected. Our officers are as follows: President, Fred A. Loew; Vice-president, Briant Lawrence; Secretary, Ray C. Pellett; Treasurer, Merle G. Gragg.

We made our constitution and by-laws as simple and as few as possible because we do not want to be hampered by "Red Tape."

We elect our members. We are not trying to make our chapter popular from the standpoint of numbers. We do not urge any one to join because we want those who join to do so because they love to study nature; and will keep up their own interest. We think, that the best results will be obtained by this method.

In order not to interfere too much



OUR CENTRAL COLLEGE CHAPTER.

with other duties in College our meetings are held once a month.

We are new in the work. We may not have the best methods for doing work yet.

At our first three meetings we had papers read on the following subjects: Nature Study; The Book of Nature; Geological Birds; after each paper some time was spent in discussing the paper and subjects related to them. At our last meeting we studied stems of plants using the microscope; this seemed to be very interesting to the members.

Another feature of our work is the reports of observations made by individual members. These reports are

placed on cards and kept in card catalogue system.

One of our members reported that his mother found three eggs in one, the inner one having a soft shell. Others reported having seen robins and other birds not commonly observed in winter.

It is our plan to spend some time in the field after the weather gets warmer.

We received the charter and have it framed and placed in the Science room of the college. We are all glad to be members of the world-wide Agassiz Association.

FRED A. LOEW.

Negative Geotropism.

BY FRED A. LOEW, CENTRAL COLLEGE, HUNTINGTON, INDIANA.

Negative geotropism is the tendency of the roots of plants to grow downward with the force of gravity. The roots of plants are normally positively geotropic. If the roots should grow upward against the force of gravity that tendency would be called negative geotropism.

During the summer of 1910 at the Michigan Biological station while mak-



THE WILLOW ROOT SYSTEM WITH A NEGATIVE GEOTROPIC ROOT—INDICATED BY ARROWS.

ing a study of the root system of *Salix rostrata*, a common willow growing on the sand plains in Cheboygan county Michigan I dug out a part of the root system of a good many willow bushes.

digging sometimes to a depth of six feet. In one case I followed a small root about an inch in diameter to a depth of three feet, at which point it turned at right angles and grew horizontally for about two feet; where it turned again at nearly right angles this time growing directly upwards a distance of three feet, where it came to the surface of the ground; here it turned at right angles again and grew on the surface of the ground under the leaves for three feet more. The soil in which this root grew was sand with plenty of moisture.

Experiences With Friendly Chickadees.

BY HAROLD E. JONES, NEW CANAAN, CONN.

During the past few months my nature work afield has been interrupted somewhat by other duties. I have found time, however, to make occasional trips to the woods, and even in walking from home to the railroad station there have been opportunities for interesting observation. January 4, I saw and positively identified a phoebe, which was eating ampelopsis berries from the vines on my home. He was quite chipper and active, but he must have missed the insect food which forms almost the whole diet of phoebes in summer. The only other winter record of the species, which I can find for this latitude, was reported from New Haven in the February "Bird Lore," three or four years ago. On January 20 I was fortunate enough to see a small flock of vesper sparrows. North of New Jersey this species is supposed to be only a summer resident, and is quite rare after November 1st, especially for localities not on the coast.

The latter part of November, 1910, I commenced to tie up suet in the shrubs and saplings along an old woods lane about half a mile from my home. The birds soon discovered these feeding stations, but I didn't happen to see them actually eating until my fifth visit. Quoting from the notes on my seventh visit, December 13: "At the 'Elm Feeding Station' a bluejay was eating; when I approached he flew



"EATING THE SUET UNCONCERNEDLY WHILE
I WAS STANDING ONLY A FEW FEET
AWAY."

away, protesting, and a chickadee took his place. It developed, however, that a white-breasted nuthatch considered this particular feeding-station his own property, and when he appeared the chickadee made haste to get out of the way. The nuthatch was remarkably fearless, eating the suet unconcernedly while I was standing only a few feet away." At my next visit, December 16: "I took a walk this morning, and while coming home passed the 'Elm Feeding Station.' Chickadees were fluttering about, and occasionally one of them alighted near the suet and commenced to eat; presently the nuthatch

appeared, and drove away his smaller relatives. After getting him accustomed to my presence, I took a position near the elm tree, and rested my hand, holding another piece of suet, on a branch just below the suet which was fastened up. The nuthatch, which had been scampering about in an adjoining tree, soon flew to the elm and commenced creeping down towards the suet. He fell to eating without regarding me, and after a short time scuttled down the tree trunk to my hand, picked out a chunk from the suet I was holding, and flew away in great happiness over his own daring. Presently another nuthatch appeared, and crept head-downwards toward the suet in the usual fashion. He kept on the opposite side of the trunk, however, and now and then poked his head around the bark to see whether I was acting in a suspicious manner. When he finally reached the suet he didn't dare relax his guard and commence to eat, but clung there, head extended, and looked at me in a most comical way. The survey must have proved unsatisfactory to him, for he soon flew off without appeasing his appetite. Then a chickadee appeared and industriously pecked at the suet, with his tail feathers almost brushing my fingers. A few minutes later the first nuthatch flew up again, and fell to eating in the



"PICKED OUT A CHUNK FROM THE SUET I
WAS HOLDING."

most unconcerned manner possible. A chickadee attempted to snatch a morsel, but vanished immediately when the nuthatch assumed a threatening attitude, and cried out very ferociously "ya-ya-ya-ya!" After the nuthatch had flown away to another part of the woods, I had a most interesting experience with

Robins in Winter.

From all over the country we have received letters reporting the abundance of robins during the past winter. The presence of these birds seems all the more remarkable because of the extremely cold weather that we have had. We referred the matter to Mr.



Extended accounts, including clipping from local newspaper and the above photographs, of friendly chickadees were sent by Mrs. Eliza F. Miller, Bethel, Vermont.

another chickadee. A lump of suet had fallen on the snow, and one of the little titmice attempted to carry it off to some secret hiding place known only to himself. It proved too heavy, however, and he was forced to drop it. As I stooped to pick up the morsel, he flew down and alighted on the snow nearby; I remained motionless, holding the suet close to the ground, and soon he gathered courage to approach and "take a bite." In less than three minutes he was perching on my fingers and quite unguardedly pecking at the suet."

Less than two hours altogether (on three different occasions) were devoted directly to the taming. Last November I re-established the feeding stations, and again tamed the chickadees, with even less difficulty than before. They became quite devoid of fear, and my observations at such close range were highly interesting and profitable. The photographs here reproduced were obtained last month.

Frank M. Chapman, Curator of Birds, American Museum of Natural History, and he says that he also has received many reports, but is unable to give any reason for their presence in such large numbers. Has any one a suggestion to make in regard to this?

Enclosed find check \$2—\$1 for renewal THE GUIDE TO NATURE, \$1 for building fund. My only regret is, that I cannot make it \$1,000. Why will not some of our vastly rich men give all that you need and more? They give millions for objects of no greater worth, and far less usefulness.—W. H. Sabin, Vineland, New Jersey.

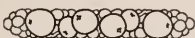
Let me but do my work from day to day
In field or forest, at the desk or loom,
In roaring market place or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,

"This is my work; my blessing, not my doom,

Of all who live, I am the only one by whom

This work can best be done in the right way."

—Henry Van Dyke.



PUBLISHER'S NOTICES

Expert Tree Climbers.

Why talk about the agility and the daring of steeple climbers? In many respects they in no way even approach those of tree sprayers. The steeple climber has only height to overcome. He always has a secure foundation,



HIGH CLIMBING WITH INSECURE FOUNDATION.

but the tree climber ventures not only upward, but outward on slender limbs, regarding the strength of which he has no positive knowledge, because there may be a flaw in that limb, or it may so branch from the tree as to split

easily from the main trunk. But fearlessly these featherless bipeds imitate the birds and perch on the slenderest branches.

The accompanying illustration is a good example of this brave work in the behalf of trees. It was kindly loaned to *THE GUIDE TO NATURE* by The Frost & Bartlett Company of Stamford, whose men are regarded everywhere as the most expert in the profession.

Will Return to Original Location.

Willoughby and a Square Deal, known the world over, moved, in 1907, from 810 Broadway to their present quarters. About the first of next May they intend to return to 810, there to occupy a new down-to-date store that comprises three floors and all the accommodations that a modern building offers.

It is remarkable at what low prices Willoughby and a Square Deal supply enthusiastic camerists everywhere with the very best goods. They offer bargains in high grade lenses so attractive that there seems to be no reason why every camerist should not have an anastigmat lens. Their prices on many such lenses that have been used only slightly are actually less than one-half of the catalogue price.

We have received from the Taylor-Hobson Co., a copy of their 1912 catalogue which lists the latest sizes and models of Cooke Anastigmat lenses and which also includes particulars of the new Cylex double anastigmats and of the Cooke-Telar lenses which have been advertised in these pages for the photographing of distant subjects and for nature studies. A copy of this catalogue will gladly be forwarded upon request. The address of The Taylor-Hobson Co., is 1135 Broadway, New York City.

C. S. HOLT, LOCKSMITH

No. 23 BEDFORD ST.

STAMFORD, - - CONNECTICUT

Telephone Connection

THE GUIDE TO NATURE

Vol. IV

APRIL, 1912

Number 12



"In April the bud and then the bloom of the blood root arises from its winter leaf-cloak."

Photograph by Nathan R. Graves, Rochester, New York

EDWARD F. BIGELOW, Managing Editor

PUBLISHED MONTHLY BY

THE AGASSIZ ASSOCIATION, Arcadia; Sound Beach, Conn.

Subscription, \$1.00 a Year; Single Copy, 10c

Entered as Second-Class Matter June 12, 1909, at Sound Beach Post Office, under Act of March 3, 1879



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We shall be glad to show intending purchasers through our nursery, as we think it the proper way to see the stock in nursery rows.

Our nursery is located on North Street near the Greenwich Country Club.

We have made a specialty of laying out new places and remodeling old ones, as our records from both sides of the Atlantic will show. Training and long experience have taught us to do this work in the most artistic and effective way. Trees, shrubs, flowers and specimens in lawns must be placed so that they will harmonize, give shade where wanted, hiding unsightly places, but leaving vistas and making display of flowers and foliage and other worthy objects.

We may here mention our connection with the World's Columbian Exposition, the Brooklyn Park Department, the Arnold Arboretum, Boston, and many private parks in and around Greenwich.

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DEHN & BERTOLF Props.

LANDSCAPE GARDENERS AND NURSERYMEN

GREENWICH, CONN.

Busy and Beautiful Stamford

"Busy and Beautiful."

This slogan has been adopted by the city of Stamford to which it fittingly applies. It was suggested by President Beckley of the Board of Trade, and at once met with general approval, since it is recognized by all who know Stamford as being properly descriptive. Business in Stamford is always good and the people work to their utmost and keep intensely busy in taking care of the business. The city itself, the suburbs, the seashore, the hills, the trees, are always beautiful. There are plenty of people in Stamford with good eyes and acute vision who know nothing and care nothing for such beauty, because they do not carry beauty into their business and into the occupations of their life. Nothing in this world is beautiful in itself, but everything is a mirror that reflects beauty if you have that beauty in the heart. Do not live in Stamford nor come to it expecting to find the beautiful there unless you bring it with you, and then you will realize the wonderful accuracy of the term, "Busy and Beautiful." I have heard that the authorities in Stamford intend to copyright the slogan as it is so particularly applicable to that city. Don't do it. Rather let it be your endeavor, as it is the endeavor of The Agassiz Association, to make all lives and all places "Busy and Beautiful." Do not limit business and the beautiful to civic interests, but spread them abroad and into every human life. The words should be the slogan not of one rapidly growing city, but of every member of humanity in his endeavor to advance toward a higher and better civilization. "Busy and Beautiful," physically and mentally, yes, even spiritually, and all earnestly.

Busy—the lovers of nature study should be the busiest of all people in

the world. They, more than all others, realize how short life is and how much there is to see and love.

Beautiful—if he sees nature rightly, as in a mirror, then from every object will indescribable beauty be reflected.

"Busy and Beautiful"—why, my dear President Beckley, if your slogan should be adopted as it can be, it will usher in the millennium. It will save humanity, it will make a heaven on earth, it will transform human beings into gods.

The Aged yet Youthful "Advocate."

"We're twenty! We're twenty!

Who says we are more?

* * * * *

We've a trick, we young fellows,

You may have been told,

Of talking (in public) as if we were old:"

Thus might sing "The Stamford Advocate" which recently celebrated its twentieth anniversary as a daily, and the sixty-third of its establishment as a weekly newspaper. It has seen the rise and fall of many a competitor, and has lived and been successful because it has been conducted on good and honorable journalistic principles. It has been faithful to these principles and fearless beyond most newspapers, especially those in small cities. It has made some enemies, but it has shown itself to be a paper with a keen interest in the welfare of all people. It is not the organ of any clique or faction. It is not influenced by selfish motives. For these reasons it has won hosts of staunch friends, and is generally recognized as one of the ablest papers of the state. Much of Stamford's prosperity, and much of its fame as a place of residence are due to the fact that it has had an untiring, impartial and effective advocate in "The Stamford Advocate."

Philosophy and Photographs in a Store

Interest and Beauty Systematically Arranged.



THESE are qualities pre-eminently desired by the student or lover of nature who searches for the things that appeal to him, who admires their beauty and then seeks to arrange them conveniently for the inspection of others. These principles well practiced not only produce an efficient naturalist but an effective business, for, after all, a part of a naturalist's work is to seek out things that will interest and benefit others, and the secret of success in business is, first of all, to find the things that interest human beings, and then to arrange them in a manner that will make them most efficiently available. You may remember the story of Frank Stockton's queen and her museum. The queen meant well, but her museum was not successful. She travelled far and near, and at great expense of time and money equipped an elaborate exhibition. But the people would not go to it. They would take no interest in it, not even after she had issued an edict that for that lack of interest they should be put in jail. Soon the whole town was in jail. Then came a stranger who advised the queen, and made her museum successful in just two moves. First he found out what the people wanted, and second, he gave it to them.

It is this stranger's principle that has made so successful the great store of the C. O. Miller Company in Stamford. The managers have learned the secret of getting what the people want. They have the goods in quantity and they are so arranged that they are easily accessible to the people.

No one lives to himself. We have heard of olden times, and it is as true to-day as it was of yore, that if one would live successfully he must have regard for all his fellow beings, he must accept their point of view and consult their wishes. When one fails

to do this it is time to go off to some lonely place and die, and in matters of business it is time to quit. Life, after all and in all its varied ramifications, comes down to the one principle of leaving self and helping others. This is true whether it is a matter of scholarship, religion, scientific investigation or selling cloth. The greater the helpfulness and the greater the feeling for human needs, the greater the success and the greater the satisfactions when success arrives.

From time to time I have read newspaper eulogies of the C. O. Miller Company's store and have recognized their fitness, but while visiting that store these bits of fundamental philosophy came into my mind, and I determined that instead of retaining them there I would give myself the pleasure of sharing them with others. So in the spirit of a naturalist, I shouldered my camera and visited the store. We human beings form a unit with many and varied activities. I have many times expressed profound pity for a brain so besotted by commercialism that it can find no use for the naturalist, and the naturalist would be a fool if he could not see and occasionally take delight in telling of the beauties and of the interesting concomitants of well conducted commercialism. Let us hammer the iron, let us search through scholarly lore persistently, let us roam the woods and fields with enthusiasm, but amidst it all let us not forget to appreciate the labors of others in other pursuits. All are working, or should be working, for the good of humanity. I have kept my eyes open in the Miller store as in the woods and fields, and I have come to this conclusion that the reason why everybody—proprietors, clerks and customers—is happy in this store is because the proprietors and their assistants have a kindly feeling for others and serve them in that kindly spirit. It is a two-sided prosperity—a store and its customers.

Stockton's queen had no pleasure in her museum until her people rejoiced in it; then both were happy.



THE INTEREST AND ATTRACTIONS OF THE C. O. MILLER CO.'S STORE, VIEWED FROM THE FRONT OF THE LEFT AISLE.



HALF WAY UP THE LEFT AISLE, TO SHOW END OF BEAUTIFUL, CURVED SHOW CASE. The skylight curiously reflected the floor into the farther end of the main case, and floor and stools into the other, obliterating a view of the contents of the cases—an interesting study in reflection well worth careful attention. The cases are filled the entire length as attractively as are the parts shown in the foreground.



THE WELL ARRANGED GLOVE CASE.



A SECTION OF ONE OF THE OFFICES AT THE FARTHER END OF THE C. O. MILLER CO.'S STORE.



A VISTA IN THE CLOAK, SUIT AND MUSLIN DEPARTMENT ON THE SECOND FLOOR.



HOMES NEAR TO NATURE AND ELSEWHERE CAN FIND HERE AN ABUNDANCE OF BEAUTIFUL CARPETS AND RUGS.



ONE OF SEVERAL ALCOVES IN THE CURTAIN DEPARTMENT.



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IT REALLY MAKES ONE HUNGRY TO SEE SO MANY PLATES!

THE GUIDE TO NATURE

EDUCATION AND RECREATION

Volume IV

APRIL 1912

Number 12



The Chestnut Trees Must Go.

Every student and lover of nature has mourned on account of the sickness and death of the chestnut trees. The chestnut trees are our special friends of the forest and around them are particularly pleasant memories of the time when in our youth we gathered their fruit. In their flowering and fruiting they are of great interest in later biological studies. A more graceful shade tree never existed. They have been

tried and found true from our childhood to our old age. They have been valuable in our poetry, our pathos and our commerce. But even the most skilled scientists have not been able to cope with the ravages of the terrible fungous disease which attacks the trees after the fungi hide themselves under the bark. The sooner such trees are cut out the better, for with no host tree on which to feed and propagate, perhaps the chestnut disease will die out,



CUTTING DOWN CHESTNUT TREES AT SOUND BEACH.



DRAWING THE CHESTNUT LOGS TO THE SAWMILL.

and we may hope that our grandchildren will gather nuts and tell their grandchildren of their nutting excursions, and of the squirrels with which they shared their spoils.

In Sound Beach, not far from our Arcadia, is a grove as primitive as when Keofferman, or Mianus, or Cos Cob lead his warriors to battle. To

this grove, commonly known as the Miller grove, have come the lovers, the saunterers, the picnic parties, the botanists and the ornithologists, and to it have come, as to an entomological Mecca, the expert collecting entomologists from The American Museum of Natural History of New York City. The grove is rich in everything that is



THE STEAM SAWMILL CUTTING UP THE CHESTNUT LOGS.



DRAWING THE LUMBER OUT OF THE WOODS.

good from an inspirational and educational aspect, and every one who has known these beautiful woods will regret the loss of the stately chestnut trees that only a few years ago were so thrifty.



SOON THE CHESTNUT BLOOM WILL BE RARER THAN THE RAREST ORCHIDS.

But the owner is doing the right thing. He is removing them as speedily and as skillfully as possible. This is being done under the management of Contractor Hawks, with his subcontractor, Bailey of the portable sawmill. While the sawmill has been in action hundreds of visitors have been attracted to the place because here logging has been carried on in as picturesque and as skilled a manner as it is in the primitive forests of northern New England. One can hardly realize in looking at the accompanying illustrations that these scenes are only a short distance from modern residences, a railroad and a trolley car track.

Today is your day and mine—the only day we have; the day in which we play our part. What our part may signify in the great whole we may not understand; but we are here to play it, and now is our time. This we know: it is a part of acting, not of whining.—*David Starr Jordan.*

Your magazine is a constant pleasure to me.—*Josephine Grant, Franklin, Pennsylvania.*

THE HEAVENS FOR MAY

The Heavens for May.

BY PROF. ERIC DOOLITTLE OF THE UNIVERSITY OF PENNSYLVANIA.

High above the Virgin there shines the constellation of Bootes, or the Driver, whose brightest star, Arcturus, is a wonderful object. A study of the light of this golden-yellow star shows

that its distance cannot be measured by any means which we at present possess. We know, however, that its light requires at least 100, and probably 200 or 300, years to come to us, and that it is many thousands of times brighter than our own sun. Could our sun be removed into the depths of space and

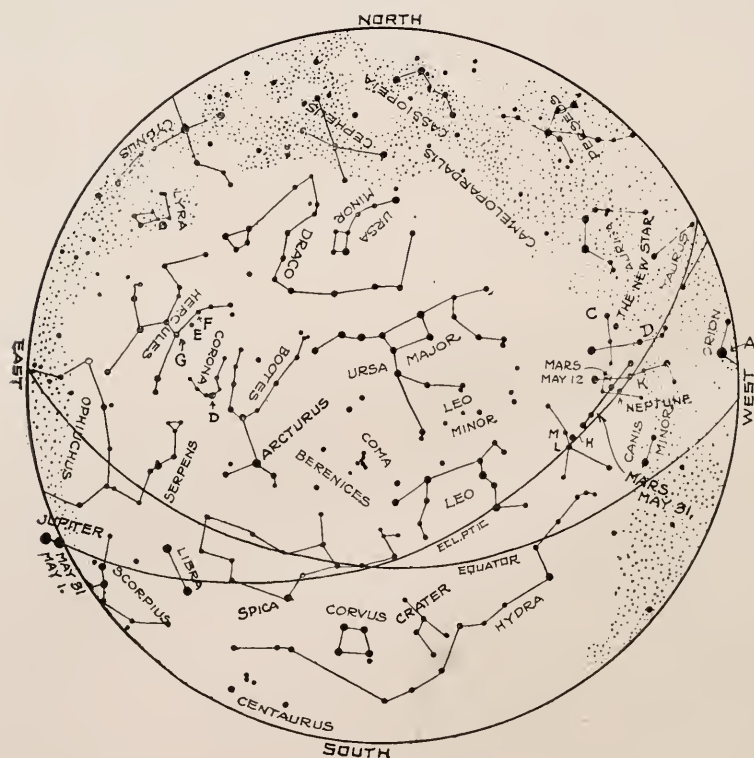


Figure 1. The Constellations on May 1, at 9 P.M. (If facing south hold the map upright. If facing north hold the map inverted. If facing east hold "East" below; if facing west hold "West" below.)

us that it is a sun in very nearly the same condition as our own sun, but almost inconceivably larger and brighter. For the apparent brilliance of Arcturus does not arise from its nearness to us; in fact, this star is so very far away

placed beside Arcturus, it would appear to us as a faint, tenth-magnitude star.

There are no less than seven of the brightest stars of the sky which are so far away from us that their distance cannot be measured. One of these is

the brightest star of Orion (at A, Figure 1), but this, unlike Arcturus, is in a very different condition from our own sun. It has apparently proceeded much farther in its development, and is approaching the point of extinction.

To the east of Bootes is the delicate arc of stars known as the Northern Crown, or Ariadne's Crown, of which the star at D is sometimes called the Pearl of the Crown. This star is receding from us at the rate of twenty miles each second. Indeed, all of the

Throughout May and June occasional faint shooting stars may be seen to dart outward from Corona, but the display will at no time be a striking one, for the stream of particles from which this shower comes is a very thin and scattered one. The observer should also not fail to examine the wonderful star-cluster at E, about one-third of the way from the star F to the star G. Here there are 60,000 stars crowded together in a compact cluster, which may be seen with a small tele-

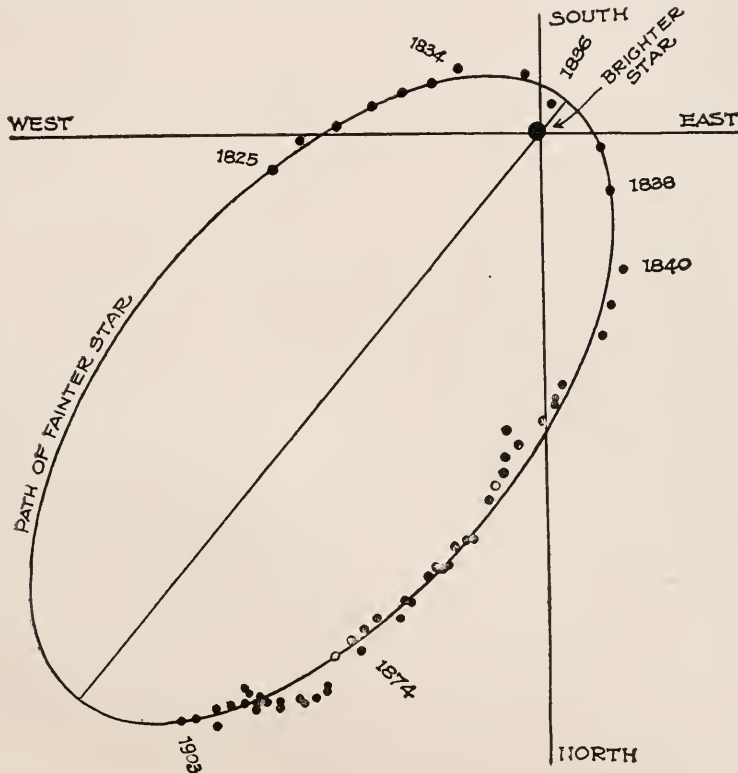


Figure 2. The path followed by one star about the other in the double-star system, Gamma Virginis, at B, Figure 1.

stars of the sky are in motion in all imaginable directions, but so immensely far are they away from us that we cannot usually perceive any change in their positions until after the lapse of hundreds, or even thousands, of years. Thus, Arcturus, for example, which is moving with wonderful swiftness, requires more than 1000 years to alter its position in the heavens an amount so great as the apparent distance across the face of the moon.

scope, or even with the naked eye, though to bring out its full beauty a large glass is required. A wide cluster will be found in Cancer at the point H, Figure 1.

THE NEW STAR IN GEMINI.

On March 12 of this year, a bright new star was discovered in the constellation of the Twins at the point shown in Figure 1, almost in a direct line between the stars C and D. At this time it was nearly as bright

as the star at C, and during the next few days it grew even brighter, after which it grew rapidly fainter, and in the course of a week was lost to the naked eye, though it was still easily seen in a small telescope. It has since been steadily fading away, and will soon doubtless be only visible with lenses of the largest size.

What the cause of these remarkable objects is, is still wholly unknown. They always appear suddenly, rising from invisibility to great brilliance within a few days, or even within a few hours. They may remain shining conspicuously in the sky for a few days, weeks, or even months, but soon they begin to grow rapidly fainter until finally they appear to sink into very faint, greenish nebulas.

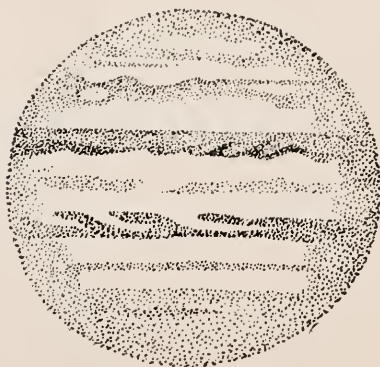


Figure 3. Telescopic appearance of the planet Jupiter.

An examination of photographs of this region of the sky made on March 10 and 11 showed that on the first date no star was in the exact position of the nova so bright as the 11.5 magnitude; on the second date the nova had appeared, and was of the fifth magnitude. On still earlier plates, however, the place of the new star was taken by a star of the fourteenth magnitude. If this faint object is the nova itself, its brightness must have increased 15,000 fold in the course of a few days.

It is possible that a sudden blazing out of a star in the heavens is caused by the meeting of an old and dark star with a meteoric cloud. The collision and friction of the meteors of the cloud may heat the cold star to in-

candescence, or may merely weaken its crust and enable the imprisoned gasses to rush out. Some astronomers think it more probable that the outburst is caused by the near approach of two dark suns, the enormous gravitational pull which results tearing apart the crust of one of the stars and thus enabling the hot, inner material to escape as before. Still others believe that the wonderful brilliance is due to an explosive outburst in the body of a slowly-shrinking star, and that no outside influence need be imagined to account for it. What the cause of so enormous an explosion can be we do not know, and, indeed, the whole matter is one of the many problems in astronomy still awaiting solution.

THE PLANETS IN MAY.

Mercury is a morning star, reaching its greatest distance west of the sun on the afternoon of May 13. For a few days before and after this date it may be found shining brightly in the dawn, almost due east, rising about 1 hour 30 minutes before sunrise.

Venus is also a morning star, but is too near the sun to be well observed. On May 1 it rises 1 hour 5 minutes before sunrise, which time is lessened to 40 minutes by the end of the month. It will not finally pass the sun and become an evening star until July 5.

Mars moves very rapidly eastward during the month from Gemini to Cancer. It passes 2 degrees above the bright star K, Figure 1, on May 5, and just below the Praesepe and between the stars L and M on June 8. In one day it moves over the sky an amount equal to the apparent distance across the moon. It is now very far away from us and appears in the telescope as only slightly more than one-half full.

Jupiter is now just entering the evening sky. It rises a few minutes after 9 o'clock on May 1, and at 7 o'clock on May 31. It is in the southeast, in excellent position for observation.

Saturn passes the sun and enters the morning sky at noon on May 14. On May 27, at 4 P. M., it passes Venus, but both bodies are then too near the sun to be well observed.

Optical Resolution of the Ring of Saturn into its Component Satellites or particles.

BY PROF. DAVID TODD, AMHERST COLLEGE OBSERVATORY, MARCH 18, 1912.

I do not need to call to mind here the progress of telescopic research on the ring of Saturn, from the time when Galileo first observed it and Huygens first divined its nature as a true ring, near the middle of the seventeenth century, thereby explaining all the appearances that had baffled his predecessors and showing how the ring might disappear and reappear in a complete cycle of phases from absolute invisibility to the amplest widening. Cassini later showed that the ring was divided into two parts unequal in breadth, the inner one the brighter and broader; while Encke similarly found a division in the outer ring, though still more difficult to recognize. About the middle of the eighteenth century Bond and Dawes discovered the broad dusky ring inside the inner ring of Huygens, and near the end of the same century Keeler provided the first observational proof by means of the spectroscope that the ring is composed of clouds of satellites or particles revolving around Saturn, in full accord with the harmonic law of Kepler. There was still, however, the possibility that the ring might be gaseous in composition.

Hence the desirability of visualizing if possible the separate particles of which the ring had been mathematically and spectroscopically proved to be composed.

The writer has for many years observed Saturn at every favorable opportunity, and with the highest magnifying powers that the conditions of atmosphere would admit. Since 1905, when the 18-inch Clark glass was first mounted at Amherst, the ring has been too much foreshortened and the inner regions of the *ansae* too restricted in area, until the apparition of 1911, during which every opportunity of exceptional definition has been embraced. The objective has been fitted with an exterior iris diaphragm, conveniently operated from the eye-end; and the absolute necessity of such an appliance

in all telescopic work requiring fine definition has been proved beyond a doubt.

The weather conditions of the peculiar autumn of 1911 gave many opportunities when resolution of the Saturnian ring near its extremities was suspected; but not until the perfectly quiescent nights of October 28 and 29 was there a near approach to that serenity and entire atmospheric calm which I had before experienced but twice: on the summit of Fuji-san in 1887, and in the desert of Tarapaca in northern Chile twenty years later. The power on this occasion was pushed nearer to the limit than I had ever found it possible to do before at Amherst. The sky, too, was absolutely clear of haze, so that a power of 950 gave only very slightly scattered illumination in the field. In moments of best definition a power of 1400 was found to perform satisfactorily with an aperture of 16 inches.

Near the extremities of the inner bright ring there was a lenticular shading, as drawn by Proctor and less pronouncedly by Barnard; and it was in this especial region that, in moments of the best vision, a certain sparkling flocculence was more or less steadily glimpsed; scintillant much as fine snowflakes sun-illuminated at the close of a storm. There was no longer in the writer's mind any doubt that the separate component satellites of the ring had been seen, at least in that part of the inner Huygenian ring which is adjacent to the extremities of its major axis.

A Latin dispatch was therefore forwarded to Sir David Gill, as follows: *Saturni anulorum clarorum exteriorumque axium maiorum prope extrema, me adiuvantibus validissimis telescopiis, quandam flocculentiam scintillantem observavi, quam ocularum dissipationem anuli esse interpretatus sum.*

By a like fatality that rendered Schiaparelli's *canali* into canals, *ocularum dissipationem* became, not optical resolution, its true English equivalent, but dissipation,—a simple transliteration which implied a breaking up or dissolution of the ring: an idea wholly

foreign to the writer, who is no friend to catastrophic theories of the Saturnian ring. Verification of the resolution will be even easier during the next presentations of the planet, especially in 1913 and 1914.

The Satisfactions of Star Study.

BY W. J. LOCKWOOD.

"I don't know one star from another, and what is more, I don't care," said a man the other day, a man whose place in life would certainly make it impossible for him to lack the opportunity to know. "I can see some sense in my knowing where Chicago is, or even Madagascar, for that matter, but why should I bother my head about the stars?"

Now the remarkable part of that man's attitude is that he should give so little credit to his own intelligence; for it is only because of his calm assurance regarding the orderly movement of the heavenly bodies, his perfect reliance upon what he knows about the stars, that he imagines himself more concerned about Madagascar than Mars. It requires but a slight manifestation of the unusual, an eclipse, or the visit of a comet, to prompt everyone to amazement, while the newspapers spread front page columns with astronomical reassurance that the world will survive. Perhaps it is because for many centuries devoted men have explained the mysteries of the universal routine, have feasted their less observant fellows with facts and scientific accuracies, until from second-handed familiarity has grown a contemptuous indifference; an indifference which is worn as a cloak within which men wrap themselves against any chance appreciation of the stars, lest those sirens of the sky shall inspire that curiosity, awe, and imagination, which is their due.

Is it not more commendable that a man should be discontent with the narrowing influences of his career, and should embrace the simplest means of enlargement that comes with each reoccurring night? Surely man, the supreme creature of the universe, can

find an interest in that of which he is a part. The lives of thoughtful men teach such a lesson.

We are told that Seneca, during his long exile in Corsica, wrote, "So long as my eyes are not robbed of that spectacle with which they can not be satiated, so long as I may look upon the sun and moon and fix my lingering gaze upon the constellations, and consider their rising and setting and the spaces between them and the causes of their less and greater speed—while I may contemplate the multitude of stars glittering throughout the heavens, some stationary, some revolving, some suddenly blazing forth, others dazzling the gaze with a flood of fire as though they fell, and others leaving over a long space their trails of light; while I am in the midst of such phenomena, and mingle myself, as far as man may, with things celestial—while my soul is ever occupied in contemplations so sublime as these, what matters it what ground I tread?" And it was a part of Bacon's philosophy that man, the minister and interpreter of Nature, can act and understand in as far as he has, either in fact or in thought, observed the order of Nature, and that more he can neither know nor do.

The wondrous order with which a wise Creator has endowed His universe is no where more manifest than in the perfect systems of the heavenly bodies. The absolute timeliness of their appearing and disappearing from our vision, the amazing distances with which we may deal with unfailing accuracy—to say nothing of the marvelous beauty of them all, are reasons which should inspire in every thinking person some desire to attain a familiarity with the prominent constellations and planets visible to the naked eye.

He who has devoted no time to this subject, who does not know one star from another, has missed one of the most potent of human interests and left untouched a positive source of inspiration. For it is difficult to conceive of any more wonderful illustration, or a clearer example, of Nature's perfect plan than is spread before the

eyes of even the most casual observer when, on a starry night, he looks toward those calm sentinels of the dark.

Consider the marvelous facts of the universe; how this star shines three hundred trillion miles away, how that one is five thousand times more brilliant than our sun, how another is so large that it could not pass between the sun and our small planet, and how a single ray of another's light requires a half century to reach us. Think of the infinite realms of space, of the enormous size of the heavenly bodies, the tremendous speed of the planets, and the uncounted millions of stars. Is not the glory of God thus declared to

man in no uncertain terms? Are not these things inspiring? Is it not a sublime consideration that man is an important factor in a universe so marvelous, and that he alone in all this glorious creation is endowed with the God-given power to interpret the works of his Creator, so that he may come to realize that the perfect system of things celestial, the infinite care with which the universal routine is set and timed, are but manifestations of the divine intelligence that directs his own sphere.

Nature speaks in many tongues, but in none of them is the wisdom of the Almighty more eloquently proclaimed than in the language of the stars.



More Than Sixteen Million Flies.

[From "The Worcester (Massachusetts) Telegram."]

The accompanying illustration shows the result of the greatest fly-extermi-nating campaign since the days of Pharaoh.

In the pile and bags shown in the photograph are 16,217,088 dead, dry, shriveled and shrunk flies. When they were caught in *The Telegram's* \$650 fly contest, there were enough to fill ten rum barrels, but after lying in state in Dr Clifton F. Hodge's barn on May Street six months, they became less in bulk.

The pyramid is four feet high and thirty-four feet in circumference. In the picture are shown Dr. Hodge and Dr. Edward F. Bigelow of Connecticut, who is also interested in the movement, looking for the extermination of the fly pest.

When *The Telegram* announced,

June 20, that it would buy all the flies in Worcester, and offered one hundred and fifty-three prizes amounting to \$650, the biological department of Clark University made a request for the dead flies. Each day, as the bright boys and girls brought their catches to Truth's Temple, the flies were turned over to the custody of a representative of the university, and, after they had been disinfected, were stored in the biological laboratory. As the contest went on, and flies came in by the million, it was found that if the laboratory were given over to the storage of the flies *The Telegram* boys and girls were killing, there would be no room for the pursuit of various other branches of the educational work there. So the flies were carted to Dr. Hodge's barn, and were stored there.

Even Dr. Hodge, expert of flies, did not know what to do with so many flies, until he came to the conclusion



DR. EDWARD F. BIGELOW AND PROFESSOR CLIFTON F. HODGE DISPOSING OF OVER SIXTEEN MILLION FLIES, AT WORCESTER, MASS.

Friday that as the only good flies were dead flies, these millions might be beneficial as a fertilizer, and so they were placed on the ground, and this spring, they will be plowed in. When the corn, beans and cucumbers come up in the spring the doctor will make calculations. When the crop is gathered he will report how much benefit there is in dead flies for the purpose of fertilization.

Lace Under The Sycamore's Bark.

New York City.

To the Editor:

I often meet people in Stamford who complain that living in the country is dull and that they don't know how to kill their time. They fail to understand how I can possibly stay in the country for so many of the winter months, when there is nothing to do. Personally I never have time enough to do one tenth of what I want to do. I cannot go for more than a few feet from my doorsteps without finding

wonderful things, that give me hours of amusement, pleasure and instruction.

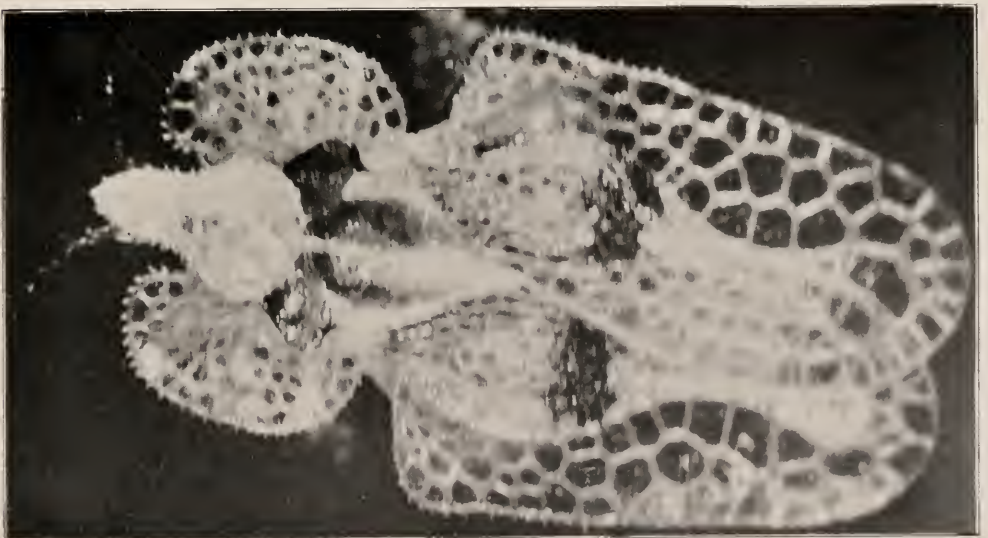
A few weeks ago I was leaning against an old sycamore tree that stands not more than fifty feet from my house. Incidentally I scraped off some of the loose bark and found beneath it great quantities of tiny, insignificant-looking insects. I gathered a few and put them under the microscope. What a revelation! The little things looked as if they were clad in the finest Irish lace. Not only did their wings present the finest lace design, but a magnificent little boudoir cap of daintiest lace adorned their heads, and a downy, filmy mesh work ornamented their legs. A very common little insect, the lace bug it was! I scraped more bark from the tree after my microscopical examination of these pretty little creatures, and I found great colonies of them but not all the members were alive. Many of them had served as meals for other insects which were feeding upon them.



PART OF A FAMILY OF LACE BUGS FOUND BY MR. UHRLAUB.

Several ants had evidently been eating them, though the temperature was eight below zero. Ladybugs and a small black beetle had done similar

deeds. All of these were working hard to keep the balance wheel in nature properly tuned up, and were taking care that there should not be too



ONE OF THE LACE BUGS MORE HIGHLY MAGNIFIED TO SHOW DETAIL.

many lace bugs in the spring to hurt my sycamore tree. What a wonderful world do we find this to be, if we only look at it, and how many wonderful things there are to look at, of which most people have never heard, though these wonders are daily under their very finger tips and before their eyes. I bought a five dollar microscope for my young son, and while of course its magnifying power is not nearly as great as is that of the instruments that I use, it is enough to enable him to pass away many a dull hour with much benefit. How indescribably better than to go to New York to see a silly show. Since I have lived in the country I have never had a dull moment.

Yours sincerely,

JOHN C. UHRLAUB.

Of the lace bugs, Comstock says:

"Dainty as fairy brides are these tiny, lace-draped insects. One glance at the fine white meshes that cover the wings and spined thorax is sufficient to distinguish them from all other insects, for these are the only ones that are clothed from head to foot in fine white Brussels net. They live upon the juices of plants, and in the case of the Hawthorn Tingis sometimes prove too numerous for the health of their plant host.

"They are very small insects, rarely measuring more than one eighth of an inch in length. Their eggs are fastened to leaves, and covered by a brown, sticky substance; they appear more like fungi than like the eggs of other insects."—Ed.



Put a Light Shield on the Camera.

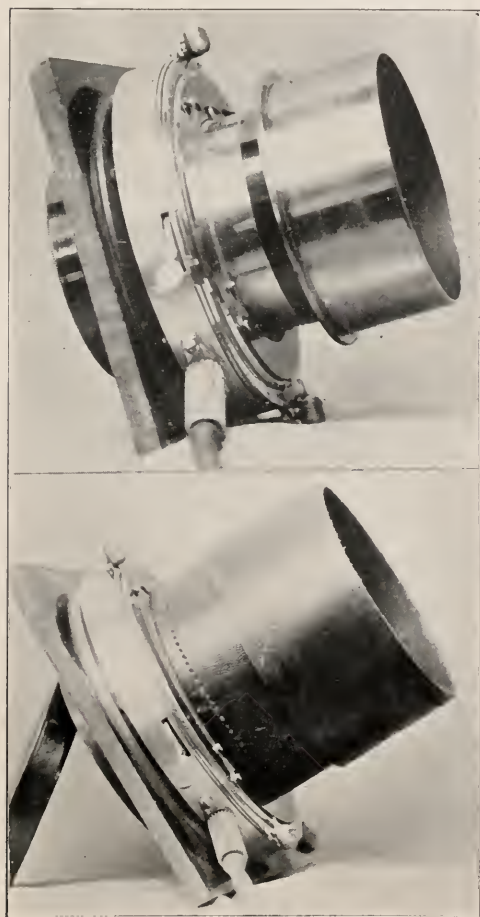
To obtain the greatest benefit from a high grade lens the camerist should use some form of light shield. When one goes into a high class portrait studio he will note that the photographer uses a very long and large light shield. But here of all places such a shield is the least needed because the light does not come from every direction, but only through the windows. Yet even in such a situation the photographer evidently regards it as necessary to place the light shield over his lens in order to have it work to the greatest advantage. Ask any manufacturer of high grade lenses, and he will tell you that the best results are secured, especially when the camera is used out of doors in a strong light that comes from every direction, by having a circular shield on the lens. But strange to say, not one such manufacturer, so far as I know, regularly lists a shield for the lens. I have had an interesting and extended correspondence with several, and while they all

admit the necessity of the shield, they allow their lenses to go into the market, and into the hands of inexperienced people, without this appliance. I am of the opinion that the higher the grade and the faster the lens—that is, the larger the opening—the more is it in need of such a shield. It is self-evident that large apertures expose more glass to the light than the small ones, but I believe it to be true that a lens wide open has greater need of the shield than when it is stopped down, because, to a certain extent, the diaphragm prevents ill effects from side light.

The Bausch & Lomb Optical Company have, at my request, supplied a metal shield for a Protar as shown in the upper part of the accompanying illustration. It is of brass lacquered on the outside and painted black on the inside. This is very efficient when once attached. It is held firmly in place by screwing it within the flange at the front of the lens, but it has one disadvantage. It cannot be so readily adjusted as can one that slips over the

lens, and if it is screwed up a little too tight it "sticks" in the thread when an attempt is made to remove it, and brings the front lens with it.

The lower part of the accompanying illustration shows a simple device formed of two cylinders and made of leather by a local harness dealer. This



A METAL HOOD.
A LEATHER HOOD.

is on the Volute shutter containing a Goerz Celor lens and I think on the whole is the most satisfactory form. I therefore advise our camerists to have two such cylinders made, one to work within the other in draw tube fashion, and to slip easily over the projecting portion of the front lens. This is a comfort and will be a joy forever.

During the past winter, in taking snow pictures, I have found it of especial advantage where very strong light came not only from the heavens above but from the snow on the ground. My experience has taught me that not only in my own photographs but in those which I have seen from fellow photographers much of the value of any lens, and especially of the anastigmat with its broad surface, is lost, because its light is not limited directly to that which comes from the object. It took me many years, strange to say, to realize the necessity for such a shade, when I might early have saved myself several long letters and many postage stamps by asking the local harness dealer to make this leather contrivance for me. I offer the suggestion for the benefit of fellow workers, but it is astonishing that such a suggestion should be needed. It is equally astonishing that I failed for so long a time to discover how to remedy the trouble. I hope this suggestion will be accepted by all my colleagues in the use of the camera, and I hope too that it will lead every manufacturer of anastigmat lenses to supply, at moderate price, well made leather hoods to fit each size of their make of lenses. If each optician does not care to do this, I hope that some one house will put such an appliance on the market, and I so firmly believe in its efficacy that if any house will supply such a form of leather draw tube, this magazine will be glad to give that device a free advertisement.

What are Nature Photographs?

For more than a year we have been by advertisement requesting that nature photographs be submitted to us, and we have received many, but nearly all that have come have had scenic beauty for their only merit. It seems to us that the term, nature photograph, should be applied to those pictures that show details of interest in nature as well as mere scenic or landscape beauty. The camerist should use his camera, as we have previously said,

to record interesting facts. It is strange that we have received so very few photographs that do this, and so many that seem scrupulously to avoid it. Can our photographers explain why the term nature photograph, seems to be so generally understood to mean natural scenery or a landscape view?

Photographing Spring Flowers.

BY HARRY G. PHISTER, VERNON, NEW YORK.

The amateur in quest of subjects for his camera will find them in profusion among the early spring flowers. Some of these, such as the crocus, should be photographed as they grow, with a gray card for a background. Others, like narcissus, jonquil and daffodil, may be picked and taken indoors and there arranged to suit one's fancy.

I use a tumbler of wet sand in which to arrange them punching holes in the sand with a pencil and inserting the flower stems and leaves. The sand holds them upright and keeps them from wilting.

Care should be taken in arranging them to see that they are unequally spaced, except in the case of a decorative design, and also that each one is turned at a different angle with the camera. A long focus camera is essential for this work. A small stop



EXCELLENT DETAIL IN CROCUS.
With fitting background.

should be used and full exposure given in order to get correct values. Some skill is necessary in development. Care should be taken not to carry the development too far, or the delicate details in the white flowers will be ob-



A DECORATIVE DESIGN.



A DECORATION OF TRAILING ARBUTUS.
By Edward F. Bigelow.

scured or destroyed. But no trouble should be encountered, if full exposures are made, and if plenty of water is used in the developer, and the negative kept thin.

The few examples here given are shown with the intention of pointing out the possibilities in this class of work.

Interests Near Home.

Llano, Texas.

To the Editor:

THE GUIDE TO NATURE has excited in me an interest for the things of the everyday life that surrounds me. My fault seems to have been in looking for things of interest that were distant, just over the hill as it were.

These photographs, of a hawk and an owl, are pictures of birds that are common here, and pests to the farmers as well as terrors to the chickens. Their lifting powers are wonderful. I have seen each of them carry off a full-grown hen.

The owl in the photograph was tied to a brick, while I went for the camera, but on my return he was not in the field. I found him near some cactuses

about fifty yards away. He was still fast to the brick, but he had flown with it over the fence. Afterward I found



THE STUDY OF A CHICKEN HAWK.



A BIG-EYED, WISE BIRD, WELL PHOTO-GRAPHED.

that the brick weighed eight pounds and two ounces.

I have a Press Graflex camera and find it unequalled for this work.

Yours very truly,

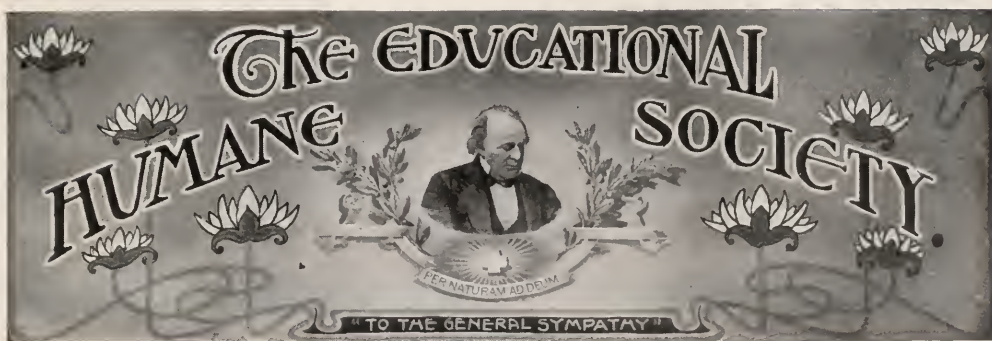
LESLIE L. LONG.

An Effective Photograph of Swans.

Here is a rather remarkable photograph of swans taken by Mr. R. H. Jaffray, 7 East Forty-second Street, New York City, with a Graflex camera fitted with a Steinheil "Unifocal" lens. Mr. Jaffray is enthusiastic regarding this outfit and says that with it he has secured some remarkable results. We are always glad to hear from any of our photographic enthusiasts in regard to their outfits and to see results secured by them.



MR. JAFFRAY'S MASTERPIECE IN SWAN STUDY.



A Chapter of the Agassiz Association. (Incorporated 1892 and 1910.) The Law of Love, Not the Love of Law.

How to Obtain a Pet.

Some people receive pets, some people find pets, some people go to the market to buy pets. Between the first two there is not much to choose. If a friend offers to give you a pet, you have to decide whether or not you are willing to accept it. I must confess that I have accepted such gifts that were small in size but elephants in other particulars.

If the pet voluntarily comes to you, you cannot say, "Go change yourself into something else." I know a woman who won the first prize with a cat that she found as a stray kitten in a country road. It was unlike anything else she has ever heard of in that vicinity and, so far as she knows, it might have dropped from the skies, though for reasons biological and physical it is unnecessary to say that it probably did not.

A letter from a woman in a dilemma about the purchasing of a cat has just come to my desk and from it I quote the following:

"I am trying to buy one or more kittens and am taking considerable trouble to get them, as I want to be sure that I am doing the right thing when I make my purchase. I don't want exhibition cats nor fine breeders, though I am not unwilling to raise kittens, but I want them now mainly as pets for a little girl. I have just received a catalogue from the 'Black Short Haired Cattery.' I had thought it would be no trouble to buy a cat, but since going through this catalogue I

find that I am mistaken. But I don't want pedigreed cats, nor prize winners, and I know there are kittens to be had for pets, somewhere, and at lower prices than those given in this book, but I don't know where to find them. I want some information about the different breeds, their dispositions, and which are safest as pets for children.

"Until I saw this catalogue I thought I wanted pure white, blue eyed Persian kittens, but now I don't know what I want. Can you help me? I shall be grateful for any information that will help me to make a choice."

It is easy to give specific information. It is this—do not get into your mind the notion that there are any standards of comparison between the different types or breeds of any particular pet better than your own personal preference. Decide what you want and then get it. You will not be satisfied until you do get it. If you want a poodle do not believe that a St. Bernard is better because it is bigger. If the poodle fits you take it. Do not be like the proverbial Irishman who wanted as big a pair of shoes as he could get for the price, because he would get more leather for his money. Happiness may be expressed in the terms of the biologist, "Adaptation to Environment."

A Plymouth Rock chicken cannot be compared to a Bantam, nor a long haired Persian cat to a Manx cat without any tail. Find out your preference, and proceed on that basis. As to quality and value, if you do not know anything about vici kid or calves' skin

leave that, as well as the fitting, to your shoe dealer in whom you have confidence.

The less you know about cats the more you must depend upon your dealer. Do not presume to be critical or learned. Take your modicum of knowledge and all your money, lay them both at the feet of the learned dealer, and accept his decision. I will guarantee that by this method you will get a better cat than if you pretend to know and try to drive a sharp bargain.

The secret of the whole matter is this. If you do not love the girl, do not marry her, or you will both be unhappy. If you do not love cats, do not buy a cat, or you both will be unhappy. If you do love cats, almost any kind of a cat will please you. It is all a matter of taste, fancy and idiosyncrasy.

The Mystery of Hibernation.

To hold in one's hand an animal curled up and apparently asleep, yet not really in sleep; apparently dead,



A WOODCHUCK THAT HIBERNATED TWO WINTERS IN A BOX OF HAY IN ARCADIA'S OFFICE.

yet alive; apparently living, yet with many of the aspects of death, is indeed to hold a wonderful thing. The phenomenon of hibernation seems to me even more wonderful, if possible, than the transformation of the pupa from the chrysalis. A pet woodchuck, caught by a little girl near Arcadia, was kept in our office during the entire

winter in a small box with a little hay. At any time during the winter this mystery of mysteries could be taken out and held in the hand, to the astonishment of the visitor. I know of nothing more impressive than this curious method of stagnation in the life activities of an animal. If any of our naturalists have the opportunity to secure a woodchuck, I earnestly advise them to keep it in a box with hay, and in a place where the temperature is low but not freezing cold.

What Do You Vote For The Crow?

Herbert K. Job State Ornithologist, West Haven, Connecticut, says, "That black rascal, the crow, is under fire again." That the crow is a "black rascal" is in many respects true, but the question is, Has he enough good qualities to offset his propensity to kill young birds and to pull up corn? The authorities at Washington also want this information. Let us give the crow a fair trial, even if we hang him afterwards—in the cornfields. Who has a good word for him?

Well, here goes for one:

He can sing a song that touches the heart of the old man and makes it young again, for it renews the remembrance of his youth; it puts into vibration the chords of memory, and the old man turns his face toward himself as he was when he was a boy, and he again sees the boy's shining visions, and has again the boy's long, long thoughts. The crow's spring song is sweeter far than the quirps and the trills of the song sparrow, delicious to the ear as they are.

One vote for the crow.

My Opinion of Crows.

BY E. S. CROMWELL, L. H. NATURE LEAGUE, SUMMIT, NEW JERSEY.

"Crows nest at about fifty yards from my house, every year. In the autumn an unthrashed sheaf of wheat or rye, is tied into a tree for food and shelter, and a shelf, for cooked cereals, bird seed, and grains is kept supplied for the smaller birds. My crows are fed all winter, the flock varying from four to a dozen.

In all my close acquaintance with crows, covering a dozen years, I have never convicted him of stealing—this with a big vegetable garden, and truck-patch offering him every opportunity. In the early mornings I see him walking, in a dignified manner, in the garden, but no complaints have ever been made by our gardener of corn or pea being taken. The sparrows eat the pea blossoms continually.

In view of the enormous increase of insect pests we cannot afford to spare any insectivorous bird, and should feed and encourage them, rather than depend on sprays and insecticides to do what God meant the birds for.

A Remarkably Tame Robin.

Pasadena, Texas.

To the Editor:

The article "Robins in Winter" in the February issue of *THE GUIDE TO NATURE* calls to mind a very unique experience I've had with a lovely robin this winter. The presence of the robin here with us in South Texas presages a "cold snap" as a general thing, and it seldom fails that within twenty-four or thirty-six hours the "cold wave" arrives after we note the arrival of the robins. A few remain with us the entire winter,—the larger number going farther south in their migratory instincts, to Cuba, Central America, and to the northern regions of South America. We are only too pleased to have them remain with us, since they are good insect destroyers; and as the cultivation of the large truck farms and the immense strawberry fields of South Texas is at its height, the birds have but little trouble in securing food in abundance, in the way of grubs, larvae of all sorts of insects, worms, etc.

I have planted out quite a number and a variety of small trees this winter in and around my yard and lots, working at it in a leisurely way for several weeks. On one occasion I noticed within a few feet of me, sitting on a post, a lovely robin, his chirruping being as persistent as it was distinct; and his seeming lack of fear, and his confidence in me were most pronounced. I

tossed him an earth-worm,—he immediately alighted from his post, ate it, and remained there for me to throw him another, which I did, and continued to do. When I'd finished at one place and go to another, he'd follow, and chirrup for the worms. Every morning as soon as I started to dig, the robin would appear, take a perch in close proximity, chirrup for worms, and this was repeated, day after day, for several weeks. Evidently this particular bird was raised, or had a nest in some yard in close proximity to a dwelling and its inmates, up North was accustomed to people,—perhaps even fed by them, as his entire lack of fear showed. I called it to the notice of the wife of one of my tenants who also lives in another house in my grove; and she said that every morning when she started to wash her dishes just after breakfast, on the back gallery, that same robin would put in his appearance to be fed with crumbs, and would come so near that she could almost touch him.

To see a wild bird so tame, and manifest such little fear has been most gratifying. He really became a constant companion; and as this especial robin was such a handsome, manly little fellow, I was only too glad to be his worm purveyor.

The great increase in insect life since I can remember has been most wonderful; and the great decrease, and dearth of bird life most lamentable. That one is the correlation of the other is, alas! only too true!

V. S. MAC NIDER, M. D.

Observations of Two Rare Birds.

Island Pond, Vermont.

To the Editor:

Several times in the past two years my husband has, when in the deep woods on tramping or fishing trips, seen a bird that is locally known as the "cock o' the woods." The last time was on the 15th inst., when out on snowshoes at the base of Mt. Bluff. He describes the bird as a "giant woodpecker," nearly or quite as large as a partridge, or ruffed grouse, with bright red on head and neck down to the

shoulders, the body being black and white, the back mostly black. Has the habits of the woodpecker tribe, but keeps to the deep woods. Can you tell me what it is? None of our reference books in the public library mention any woodpecker larger than a robin; but my husband is positive in regard to the size of this species. A friend in St. Johnsbury, Vermont, suggests that it may be the pileated woodpecker.

I have to report the presence in our trees on February 18 of the greater redpoll. I got an unusually good view of one as he sang his "gleeful, canary-like song," which of itself was almost sufficient for identification. I feel quite elated, inasmuch as this is a very rare visitant in our locality; indeed, Miss Griffin, the Director of Fairbanks Museum of Natural History at St. Johnsbury, Vermont, says that this is their first record of this bird in northern Vermont.

Cordially yours,

GRACE H. SADLER.

Your friend is right in the identification of the bird as the pileated woodpecker. The range was "formerly whole wooded region of North America; now rare or extirpated in the more thickly settled parts of the Eastern States."—Ed.

Feeding Wild Ducks.

There are thousands of wildfowl wintering within the borders of New York State. On account of the extremely cold weather, practically every lake and stream in the middle and northern part of the State has become frozen over, preventing the ducks from feeding. As soon as the Conservation commissioners became aware of this fact, protectors were ordered to purchase grain and give their attention to the feeding of the ducks. On Seneca Lake in the vicinity of Geneva there were estimated to be 5,000 wild ducks of different species in one small opening in the lake. As soon as the grain was spread upon the ice, the wild ducks fed upon it as readily as if they were domesticated. The same condition ex-

isted on Great South Bay, and on Cayuga Lake in the vicinity of Cayuga, where the ducks have been in the habit of wintering, and the situation was met in the same manner by the protectors purchasing grain and feeding the ducks. In many instances where it was known to the commission that there was a large flock of pheasants, arrangements have been made with a responsible person to see that they are fed.—*Forest and Stream*.

AWAKENING OF NATURE.

By Caroline Clark Hinton, New York City.

From out the dull gray mist
The dawn usurps the night;
While from the woods the song
Of birds thrill with delight.

A thousand notes that mingle,
Melodies of humming bees,
And sudden wind that answers
Waking the sombre trees.

The air is full of life,
Of noisy flying things,
Who dip to earth again,
And bathe in gurgling springs.

Thus life and sound and dawn
Awake the world each day,
And tell to man, God's hand,
Is showing him the way!

Harvard Observatory Completes Thirty Years' Task of Photo- graphing Stars.

Cambridge, Massachusetts, March 24.—A photographic map of the entire sky, showing about 1,500,000 stars, has been prepared in sections by the Harvard University astronomers.

According to the sixty-sixth annual report of the director of the observatory, just issued, 5,838 photographs of stars were made at the observatory during the year ended September 30 last. The total number of photographs of the stars in the Harvard collection exceeds 200,000, and if placed together would cover nearly three acres. The report says that as a result of thirty years' work and the expenditure of \$1,000,000 the observatory has created a field of work which is not occupied elsewhere in the matter of photometry, photography and spectroscopy.



Annual Meeting of The AA.

The annual meeting of the Corporators and Trustees of The Agassiz Association was held at Arcadia, Wednesday, April 3rd, 1912, at 8:00 p. m.

The Report of the Treasurer (as published herewith) was read and accepted, and ordered placed on the minutes.

The following officers and Board of Trustees were elected for the ensuing year:

Corporators: Edward F. Bigelow, Ph. D., Sound Beach, Conn., President and Treasurer; Hon. Homer S. Cummings, Stamford, Conn., Secretary; Walter D. Daskam, Stamford, Conn. Other Trustees: Harlan H. Ballard, Pittsfield, Mass., Honorary Vice-President; Hiram E. Deats, Flemington, New Jersey, Business Adviser and Auditor; President David Starr Jordan, Stanford University, California, Dean of Council; Dr. Leland O. Howard, Washington, D. C., Naturalist Adviser; Reverend Charles Morris Addison, Stamford, Conn.; George Sherrill, M.D., Stamford, Conn.

Resolved: That a unanimous vote of thanks be extended to The United Workers of Greenwich and to all others who have assisted in the restoration of Arcadia.

Voted to adjourn subject to the call of the President.

Attest

(Signed) HOMER S. CUMMINGS,
Secretary.

April 4, 1912.

I have this day examined the books of The Agassiz Association for the past fiscal year and find them well kept. All the expenditures appear to have been judiciously made, and show an improvement over the financial condition of the previous year.

(Signed) Hiram E. Deats,
Trustee.

Report of The Treasurer.

Cash Received.

From "The Guide to Nature"	\$3,917.19
From Members' Dues and Contributions to General Expenses	1,629.36
From Contribution to Arcadia Assembly Hall	50.00
From Contributions to Arcadia Restoration	2,851.93
From Sale of One Portable Building	1,325.00
From Loan from The Bigelow Family	32.17
Total	\$9,805.65

Cash Paid.

For "The Guide to Nature" ..	\$3,629.05
For General Expenses	1,145.43
For Restoration of Arcadia ..	4,169.20
For Purchase of Two Buildings	375.00
For Balance Assembly Hall Fund	14.59
For Loan per Statement April 15, 1911	472.38
Total	\$9,805.65

The above is a correct summary of cash received and paid from April 17, 1911, to March 30, 1912.

(Signed) Edward F. Bigelow.

Subscribed and sworn to before me this 9th day of April, 1912.

(Signed) Harry C. Frost,
Notary Public.

This is to certify that I have examined the details of which the foregoing is a summary, and find all to be correct, and that there are no entries for services for Mr. Edward F. Bigelow or of any member of his family.

(Signed) C. R. Fisher.

Subscribed and sworn to before me this 11th day of April, 1912.

(Signed) G. S. Wilson,
Notary Public.



THREE FAITHFUL, DEVOTED MEMBERS OF THE AGASSIZ ASSOCIATION.

Edward F. Bigelow.

Harlan H. Ballard.

Hiram E. Deats.

Photographed at the entrance to "White Birch Lodge" in Arcadia, the day after the Annual Meeting of the AA.

The Middleman in Science.

We hear much complaint nowadays of the middlemen in commerce. They are too numerous, it is said, there are too many links in the chain connecting producer with consumer. But in the scientific field the fault is quite the opposite. There are too few middlemen

not enough qualified persons engaged in the transmission of newly discovered truth to the masses. Writers of all sorts have multiplied amazingly and acquired unprecedented skill, with the exception of writers of popular science. In this branch of literary art there is perhaps not an actual decline as com-

pared with fifty years ago, but at least it may be safely said that it has not kept pace either with the advance of science or with the growth of scientific education.

There never was a time in the history of the world when scientific discoveries were so frequent or so sensational. There never was a time in the history of the world when so large a part of the population were educated to the point of understanding and appreciating such discoveries. Yet there is a widespread indifference, amounting sometimes to a positive aversion, on the part of the public, to a knowledge of the progress of science. Our literary magazines do not so commonly as formerly give space for a department devoted to science and invention. Once a theatre might be filled with a fashionable and distinguished audience to see a watchspring burn in oxygen or a mouse perish for lack of it. Nowadays it is hard to get out a quorum for a demonstration of liquid air or radium. Recent discoveries in heredity are as startling and disconcerting to popular notions as gravitation or evolution, yet

they attract little attention and arouse no heated controversies.

It is, of course, easiest to ascribe this popular indifference to the defects of our educational system. The school-master has largely taken the place left vacant in our modern thought by the abdication of the devil. Teachers are nowadays held responsible for anything that goes wrong with either the individual or society. We shall not attempt here to relieve them of any part of the heavy burden of responsibility thrust upon them, for as a class they seem rather to enjoy it, perhaps because it is a tribute to the importance. But it seems to us unwarranted to assume that a distaste for science is due to the introduction of science into the curriculum, as it is also unwarranted to assume that the reason why people do not commonly read the English classics in after life is because they had to study them in the classroom. No; the difficulty is, in our opinion, due largely to the lack of a class of competent and zealous interpreters of scientific thought, and if our educational system is in any degree re-



MESSRS. BALLARD AND DEATS AT A LABORATORY TABLE IN THE AA HOME.

sponsible for this deficiency in our modern life, it is because it does not lay enough stress on training in the art of popular presentation.

Our universities cannot be expected to discover and train many Mendels or Galileos. The number of persons who can profitably devote their lives to research is relatively small in each generation, even though it ought to be larger than it is now in this country. These professional investigators for the most part dislike to have people crowd around them and look over their shoulders as they work. We do not think it would hurt them so much as they think it would to give a popular exposition of their researches, but we recognize the fact that they are often incapable of making comprehensible to the lay mind the significance of what they are doing, and in any case it would not be profitable to take much of their time for this purpose from the labors for which they are peculiarly fitted. But here is a task, indeed a duty, for the large number of our graduates who have been trained in the method of science and inspired by its ideals and yet are not able, either for lack of genius or opportunity, to devote themselves to its advancement. They should constitute the middlemen of science, its spokesmen and popularizers. They might stand between the small group of research men, absorbed in their specialties, and the great mass of readers to whom the progress of science is of importance and would be of interest if pains were taken properly to present it to them.

It is not, of course, to be expected that people will follow with interest every step in routine of research, the steady, tedious march of the advance guard of science, even onward into the unknown. But people are naturally interested in two features of scientific work, in its speculative and practical sides, its theories and its applications. In recent progress of the physical and biological sciences both these features have been present. The new theories are revolutionary and the new applications innumerable. The newspapers and magazines offer unprecedented op-

portunities for reaching the public, but these channels are insufficiently utilized. Occasionally a brilliant article appears in print and proves that it is not impossible to be both accurate and popular. But for the most part editors have to sacrifice one or the other of these qualities when they publish a scientific article, and it is not to be wondered at that they often escape from the dilemma by ignoring the subject. But if our bachelors of science had a little more of the missionary spirit and a little more appreciation of popular needs and tastes the deficiency might readily be remedied.—*The Independent*.

For The Small Aquarium.

The March issue of the New York Zoological Society Bulletin is entirely devoted to small aquaria, in a monograph by Raymond C. Osburn. It contains much descriptive matter and attractive illustrations excellently arranged.

Death of a Member of The AA Council.

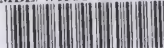
Professor Ralph Stockman Tarr, head of the department of physical geography at Cornell University, known for his important contributions to geology and geography, died on March 21, aged forty-eight years. Professor Tarr was for many years an active member of our Council and frequently gave information and advice to the AA.

Kind Words of Approval.

I think I appreciate what you are doing and it is good. You are wise in approaching the problem as you have, and I wish you all success.—*Professor Charles E. Bessey, The University of Nebraska, Lincoln, Nebraska.*

I read your attractive magazine with interest monthly. I congratulate you on the completion of the great work of removing your Association buildings and admire your courage and persistence in furthering the interests of the Association—*Miss Laura Boorman, Palmer, Massachusetts.* ♪

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